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ORIGINAL LECTURES.

ON EMETICS.

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LECTURE I.

THIS class of medicinal agents derive their name from the Greek word *εμεω*, to throw or cast up; the corresponding word in Latin is *vomo;* and hence the use of the expressions *emesis* and *vomiting* to indicate the effects produced by such articles.

Emetics may be defined to be such substances as either directly or indirectly affect the stomach, causing the expulsion of its contents through the cardiac orifice, the œsophagus, and the mouth.

The operation of vomiting is highly complex, requiring the consent and simultaneous movement of several organs. It therefore especially demands attentive examination.

Mechanism of vomiting.—Much discussion has been elicited in the attempt to determine the mechanism of vomiting, and no little perplexity has arisen from the conflicting and opposite interpretations of the phenomena presented to observation. To explain the coordination of movements in the organs interested in the act of vomiting, entails the necessity of presenting the facts in such a way as to reconcile their seeming incompatibility. This act is among the most perfect of those operations of the economy depending upon the sympathies.

The organs interested in the act of vomiting are the stomach and parts constituting the upper portion of the alimentary tube, the respiratory apparatus and abdominal muscles, and—as the media of consentaneous movements—the nerves and the nerve-centres.

Of all the organs interested, it would be supposed at first sight that the stomach itself is most instrumental in the elimination of its contents. Indeed, the doctrine that for centuries was entertained attributed emesis to a sudden and spasmodic effort of that organ, and allowed but an accessory influence to the diaphragm and abdominal muscles. Under this view of the subject, the stomach must be powerfully active.

Of the doctrine thus stated, Magendie remarks, "At first sight one sees no objection to it, and hence it is that this *scholastic doctrine* of vomiting is so extensively received, and that good minds are so loth to abandon it. But it little matters to the physician to know if it is simple and easy to comprehend; it is of more importance to know if it is true."*

The supposition that the stomach is fully capable of expelling its contents by its own contraction was first called in question in 1681, by Bayle, who attributed the operation to the pressure of the diaphragm and abdominal muscles upon the organ.† His opinion was founded upon experiments.‡ Shortly after, similar experiments were made by Chirac, and with the same conclusion.§ Towards the middle of the last century the discussion was renewed, and new facts were presented by B. Schwartz in favor of the idea that the stomach was passive in the act of vomiting, and that this was accomplished by the contraction of the diaphragm and the abdominal muscles.‖ This opinion was adopted by John Hunter,¶ but, on the other hand, was opposed by Haller.**

In 1813, new experiments were made by Magendie, with the view of determining this vexed question of the mechanism of vomiting, and no uncertainty was left with respect to the part assigned to the diaphragm and the abdominal muscles. Having provoked vomiting by the injection of tartar emetic into the veins of a dog, he opened the abdomen and placed the stomach exterior to the muscles. The efforts to vomit continued, but the stomach remained flaccid, and no expulsion of its contents occurred. In a second experiment, the abdominal muscles were cut away, and the diaphragm was paralyzed by cutting the phrenic nerves, the stomach remaining in situ, when it was not able to eject its contents under the influence of the emetic injected into the circulation. He finally removed the stomach, and adjusted a fresh hog's-bladder, moderately filled with water, to the œsophagus, placing it under the control of the diaphragm and abdominal muscles, when, from the influence of the emetic substance, it was so pressed upon as to disgorge the fluid.††

In confirmation of this view, an interesting case has been reported by M. Lapine, in which the stomach protruded through a wound in the abdomen, thus placing the organ beyond any pressure of the abdominal muscles. There was no obstruction at the cardiac orifice of the stomach, and, although strenuous efforts were made by retching, vomiting could not be accomplished until the organ was returned into the abdomen.‡‡

From the results of the experiments that have been presented above, two facts may positively be admitted: 1. That, as an ordinary result, the stomach is incapable by its own efforts alone to discharge its contents. 2. That pressure is absolutely necessary.

It is not to be concluded, however, that while the pressure of the abdominal muscles is essential to perfect vomiting, the stomach itself is without contractions in the operation. Haller took the ground that where muscular fibre exists there must be found contractility, and hence in vomiting contraction does occur. This has been noticed by many physiologists.

Haller contended for two species of contractions on the part of the muscular fibres of the stomach: one a light antiperistaltic contraction in the circular fibres of the organ, from the pylorus to the cardia; the other a contraction of the fibres of the œsophagus that are expanded obliquely over the two sides of the stomach. The two briskly accomplished he supposed would empty the organ.§§

The power of regurgitation possessed by the stomach is so well known as to admit of no dispute, and this must depend, at least in a measure, on the removal of resistance at the cardiac orifice and on sudden contraction of the stomach. But Wepfer, Portal, Highton, and Rudolphi expressly state that they have seen contractions of the stomach during vomiting, without, however, invalidating the positions taken by Bayle, Hunter, and Magendie, that the abdominal muscles are necessary to the accomplishment of the act of vomiting. Indeed, Magendie did not deny contraction on the part

*Dict. de Médecine et de Chirurgie pratiques, vol. xv., art. "Vomissement," par Magendie.

† Institutiones Physicæ, tom. iii. p. 349.

‡ Bayle states that if the finger is introduced into the stomach of a dog while vomiting, no contraction of the organ is felt; and if the abdomen is extensively opened, vomiting cannot take place; but when the parts are brought together by a suture, the vomiting is brought on by the pressure of the abdominal muscles.

§ Experimentum Anatomicum circa Naturam Vomitionis. (Ephemerides des Curieux de la Nature, 1686, Obs. 125.)

‖ Dissert. inaug. continens Observationes nonnullas de Vomitu, etc. B. Schwartz.

¶ Hunter's (John) Works,—on Digestion.

** Elementa Physiologiæ, tom. vi. p. 281.

†† Magendie, Mémoire sur le Vomissement. Paris, 1813, 8vo.

‡‡ Choix d'Observations. Bulletin de l'Académie de Médecine, tom. ix. p. 146.

§§ Op. cit.

of the stomach, but contended that as this contraction was of a slow and gradual peristaltic character, it would not be brought into play with sufficient energy to excite vomiting; "on the contrary, all that is known of the contractions of the stomach appears at most to lead us to believe that they act as a feeble auxiliary."*

That these movements have a direction reverse to those that are normal is shown by the fact of the contents of the stomach being expelled through the cardiac and not through the pyloric orifice. The researches of Budge have led him to conclude that these contractions tend to thrust the contents of the stomach, during vomiting, from the pyloric towards the cardiac orifice;† and no other inference can be received from the experiments of Maingnault, who tied the intestine just beyond the pyloric orifice, than that antiperistaltic movements occur. When the stomach solely acts, nothing more than regurgitation can be said to result.‡ This inverted functional movement is not confined to the stomach; it may take place in the duodenum or intestines; and this is shown not only in the discharge from the stomach of bilious matter, but, in certain cases of intestinal obstruction, of stercoraceous products.

The statement given is in accordance with the observations of the Committee of the Academy of Paris, who found that vomiting could not take place without external pressure upon the stomach, and that this pressure need only be very slight; for that after the abdominal muscles had been divided, and the diaphragm paralyzed, fluid could be pressed from the stomach into the œsophagus by the inferior ribs being drawn down upon the epigastric region: they perceived no motion of the stomach itself, except the circular contractions in the neighborhood of the pylorus.§

That vomiting can occur, however, irrespective of these movements of the stomach, is demonstrated by a case mentioned by Longet, where a woman who had swallowed sulphuric acid was affected with vomiting until her death. On examination, it was found that the parietes of the stomach had been entirely destroyed by the poison, and adventitious pouches formed with the abdominal walls.‖ This disproves the argument of Lieutaud, that patients may be harassed by nausea, but not be able to vomit from paralysis of the coats of the stomach.¶

With respect to this movement on the part of the stomach, the following remarks of Müller are worthy of notice:

"An important circumstance, which has hitherto been too much disregarded, is the existence of a kind of imperceptible contraction of the whole stomach, by which its entire volume is diminished without individual parts being seen to contract. I have often observed such a contraction of the stomach when vomiting was not taking place. The contraction of the stomach during vomiting appears to me to be an indubitable fact, for it can be felt by the person about to vomit; although *it has not so great a share* in the production of vomiting as has been ascribed to it, for the stomach is able to propagate the irritation applied immediately to itself to other muscles."**

As the contractions of the stomach cannot produce vomiting, it is admitted that it must be accomplished by pressure. Magendie and his followers supposed it to be accomplished by the contractions of the diaphragm and of the abdominal muscles. We are here met by the fact, however, that the contractions of the diaphragm and of the abdominal muscles are not simultaneous, so that the stomach, as it were, can be caught between them. When in inspiration the diaphragm contracts so as to expand the chest, the abdominal muscles become relaxed; and the opposite of this is the case when the abdominal muscles contract,—the diaphragm relaxes. Vomiting occurs not during inspiration, when contraction of the diaphragm takes place, but after this has been accomplished, at the time the abdominal muscles contract to aid in expiration; and this entails relaxation of the diaphragm. How, then, are we to explain the mechanism of vomiting from pressure? We are indebted to Dr. Marshall Hall for the solution of this difficult and complicated problem; and it is this:

When nausea and a disposition to vomit occur, there is excited a full inspiration, with rising of the chest and contraction of the diaphragm, so as fully to admit the air into the lungs. The expulsive effort then commences; there are lifting of the larynx, closure of the glottis, expansion of the pharynx, and opening of the cardiac aperture of the stomach, simultaneously with the contraction of the abdominal muscles. The closure of the glottis retains the air in the lungs which sustains the diaphragm, and this muscular structure floats as it were between the thoracic and abdominal cavities. Against the diaphragm thus supported the stomach is pressed by the contraction of the abdominal muscles, with the discharge of its contents; the last act of the operation being the yielding of the larynx, opening of the glottis, and full forcible expiration. As has been stated by Dr. Hall, vomiting itself is an effort not of inspiration, but of expiration.††

That a full occupancy of the chest by air is necessary so as to sustain the diaphragm, and that this is secured by lifting the larynx, was proved by experiment. The trachea was opened in dogs, when, in the efforts to vomit, the air was driven forcibly through the orifice; and again, when the lung was opened by a wound in the thorax, the air, as well as a portion of the lung, was driven through the opening. In either case vomiting was but partially and imperfectly effected.

The admission of the foregoing explanation is compatible with the position of the stomach on the thoracic side of the diaphragm; and such a case has been reported by Graves and Stokes.‡‡ Another case has been mentioned by Wepfer, where the stomach had passed through a wound of the diaphragm.§§ Under such circumstances the lungs themselves constitute, when filled with air, the points of resistance to the abdominal pressure, and subserve the purpose of maintaining pressure. Again, the diaphragm may be paralyzed and not contract, but yet be supported by the lungs.‖‖

The œsophagus would appear to play a part in this operation, as is shown by the experiments of Beclard. He laid bare this tube in the neck, and, having opened the abdominal cavity so as to allow him to cut the œsophagus at its connection with the stomach, he drew it out of the wound, in order to observe its movements: when vomiting was produced, he saw the canal contract and draw itself with jerks towards the pharynx.¶¶ A case is recorded where the patient labored under obstruction at the cardiac orifice of the stomach. From this cause the food that was swallowed accumulated in the œsophagus, and was then rejected by vomiting, but at the same time this act was accompanied with spasmodic contraction of the abdominal muscles.*** In regurgitation, the motion of the œsophagus specified must

* Dict. de Méd. et de Chirurg., art. "Vomissement," tom. xv. p. 768.
† Budge, Die Lehre vom Erbrechen. Bonn, 1840.
‡ Mémoire sur le Vomissement. Paris, 1813.
§ Müller's Physiology, i. p. 554.
‖ Traité de Physiologie, tom. ii., deuxième partie, p. 141.
¶ See art. "Vomissement," by Adelon, Dict. de Méd. prat., tom. xxx.
** Elements of Physiology, by J. Müller, M.D., Professor of Anatomy and Physiology in the University of Berlin. Translated by William Baly, M.D. Vol. i. p. 555.

†† On the Mechanism of the Act of Vomiting, by Marshall Hall, M.D., F.R.S.E., etc. *Lancet*, London, vol. ii., 1828, p. 600.
‡‡ Dublin Hospital Reports, vol. v. p. 84.
§§ A case of the kind is given by Morgagni, De Sedibus et Causis Morborum, tom. iii. epist. 54.
‖‖ Œuvres de Car. Legallois, Paris, 1824, tom. ii. p. 104.
¶¶ Bulletin de la Soc. de Méd. de Paris, 1813, tom. iii. p. 481.
*** Dr. Marshall Hall. *Lancet*, 1837-38, tom. i. p. 251.

be important, and, from its antiperistaltic character, be accessory to vomiting.

With regard to the connection of the œsophagus with the act of vomiting, Dr. Hall thus expresses himself:

"There are many facts which appear to show that the œsophagus is not without its share of influence on this act; and it is plain that the cardiac orifice must be freely opened, for mere pressure upon the viscera of the abdomen will not in ordinary circumstances evacuate the contents of the stomach. To effect this open state of the cardiac orifice, it is probably necessary that the diaphragm should indeed be in a relaxed rather than in a contracted state."*

The office of the œsophagus is lucidly stated by Adelon:

"This canal in the normal state of digestion is constantly subjected in its inferior third to alternate movements of contraction and dilatation, with the effect of retaining in the stomach the food there accumulated. But they are overcome by the desire to vomit; the œsophagus is drawn by strong jerking efforts upwards, and attracts into its cavity the matters contained in the stomach. It can be conceived that at that moment the lightest pressure exerted upon the stomach by the contiguous muscles promotes expulsion by the cardiac orifice, while were the circumstances inverse the stomach would not respond to the most violent compression from the abdominal muscles and the diaphragm. The œsophagus then plays an important part, and this it is which renders efficient or not the compression from the muscles."†

In order to produce the co-ordinate movements involved in the mechanism of vomiting, it is necessary that the nervous system should perform its part in connection with the sympathetic relations that exist between the organs interested. To trace these relations becomes an important portion of the inquiry as to the mode of operation peculiar to emetics. Emetics operate in two ways: either, first, by impressing the stomach, and through reflex action from the irritation induced on its sensitive nerves, calling into operation the consentaneous movement of the organs necessary for the act of vomiting; or, secondly, by being introduced into the circulation and disturbing the vital condition of the nerve centres, producing similar co-ordinate movements. In either case the same nervous centres are interested, and excito-motor power is the efficient force.

If vomiting is produced in the first of these ways, the irritation of the stomach must be communicated to the base of the brain, or upper part of the medulla oblongata, through the pneumogastric nerve, which is the afferent nerve, or that of cognition, in the stomach, by which the aid of the motor nerves is called into requisition. A remarkable fact elicited by the experiments of Magendie was, that when the stomach was removed from the pressure of the abdominal muscles, and there was quiescence of them, the pressure made upon the stomach, or mechanical irritation of the organ, produced the effect of retching, or, in other words, the abdominal muscles were reflexedly under the control of the stomach. Whether the nervous centre—*i.e.* the medulla oblongata—is disturbed either in this manner, or by the introduction of an emetic article into the circulation, so as thus to influence it, the further use of the nerves is to convey the influence to the muscles concerned in the operation. Through the instrumentality of the inferior laryngeal nerves the larynx is lifted and closed; through the intercostal and the phrenic nerves the chest is expanded in inspiration; and through the abdominal spinal nerves the muscles of the abdomen are brought into operation and pressure made upon the stomach. To these may be added, for the dilatation of the pharynx and œsophagus, the motor-pharyngeal and œsophagal nerves; and in connection with the elevation of the shoulders, the spinal accessory.‡ Dr. M. Hall refers to the action of the nerves controlling the cardiac orifice of the stomach as aiding in dilatation, but M. Rhüle has stated that the force necessary to overcome the resistance of the cardia is much less during vomiting than under ordinary circumstances.

The motions of the stomach, as well as of the intestines, appear to be wholly dependent on the sympathetic nerve. Müller states that "the peristaltic motions of both continue when they are removed from their connections in the body." Wepfer observed this of the stomach, and others have noticed it with regard to the intestines.§

It would appear that of the nerves that participate in the act of vomiting, the most important are the motor nerves, and that these must be brought into full sympathetic accord. Should this be prevented, the want of simultaneous and united effort on the part of the organs interested would defeat the effectiveness of the operation. As the motor nerves command the muscular movements by which the act of vomiting is accomplished, it can be readily understood that division or paralysis of any of them—as, for instance, those of the larynx, of the chest, or of the abdomen—will interfere with or prevent vomiting from taking place. The functional activity of the *efferent* or motor nerves is absolutely necessary; but as vomiting may be induced by impressing the medulla oblongata, irrespective of excitor or *afferent* influence, it matters not if this be interrupted, provided the *efferent* power be undisturbed, and hence the section of the pneumogastric does not interdict the operation of an emetic that has been absorbed. The effect of cutting the pneumogastric is ultimately to engorge the lungs with black blood, which, acting as a narcotic on the medulla, blunts its sensibility and interferes with impressions received or communicated.

Whether the pneumogastric has motor fibre in its composition or not, the fact is admitted by physiologists that it is an afferent or sensitive nerve, and hence its section only interferes with vomiting so far as this act can have an eccentric origin in the stomach. Dr. Carpenter states as the first cause of vomiting the contact of irritating substances with the mucous membrane of the stomach itself. "These, however, cannot act upon more than its muscular coat by *direct* stimulation, and their operation upon the associated muscles must take place by reflection, through the "nervous circle" furnished by the pneumogastrics and the motor nerves of expiration."‖ But the eccentric origin of vomiting is not restricted to the stomach; it may occur from the uvula and the fauces, the pharynx and upper part of the larynx, as is shown by titillating the parts with the finger or a feather, or in choking from foreign bodies that have lodged in the gullet, or coughing, as in whooping-cough. In these cases the reflex action which is excited comes from the irritative impression upon the sensory nerves of the parts, and brings on the whole train of associate movements involved in vomiting. The excitor nerve in the instances alluded to is the faucial branch of the trifacial. In individuals who have the power of vomiting spontaneously, irrespective of the voluntary control possessed over the respiratory movements and the pressure that can be made by the abdominal muscles, there is a capability of bringing into play the pharyngeal muscles, with a reflex excitation from this source which is transmitted to the œsophagus and the stomach.

* *Lancet*, vol. ii. p. 601.
† Dictionnaire de Médecine pratique, art. "Vomissement," tome 30.

‡ On the Diseases and Derangements of the Nervous System, etc., by Marshall Hall, M.D., F.R.S., etc. London, 1841, p. 710. See Leçons sur la Physiologie, etc., par H. Milne-Edwards, Paris, 1861, tome vi. p. 332, note.
§ Op. cit., i. 559.
‖ Principles of Human Physiology, etc., by William B. Carpenter, M.D., etc., Amer. ed., 1853, p. 408.

That the vagus nerve is not a nerve of motion to the stomach is shown by Müller, who says, "The usual opinion is that the irritation being excited in the vagus nerve by the cerebral affection (in diseases of the brain), that nerve excites contractions of the stomach; but this it is difficult to believe, for, distinct as are the contractions of the œsophagus which may be excited by irritation of the nervus vagus mechanically or by galvanism, *I have never succeeded in producing even a single distinct contraction of the stomach by that means*, although I have made repeated experiments with that view on rabbits, and carnivorous and granivorous birds, and have employed the strongest mechanical irritation, and even a very powerful galvanic pile,—the vagus being in the last case insulated. Even the muscular gizzard of birds cannot be made to contract in the slightest degree. Magendie and Mayo have made similar observations."*

Legros and Onimus found that a continued descending current had the effect of suspending the movements of the stomach when applied to the inferior end of the pneumogastric when cut. When an ascendant current was applied to the superior cut end, vomiting could be produced.†

The effect of dividing the pneumogastric nerve was tested by Dr. Hoppe, of Berlin, who found that it did not interfere with the act of vomiting, but, on the contrary, excited it. When the pneumogastric nerve was cut, he found that efforts of inspiration, though slow, were forced and violent, and that "vomiting, which follows immediately the section of both pneumogastric nerves, is provoked by the forced efforts the animals make to inspire."

The fact that vomiting was frequently induced by cutting the pneumogastric nerves was stated by Rolando.‡ In these cases the incitation is located in the throat.⁂

Magendie informs us that the contractions of the œsophagus are influenced by the pneumogastric nerves, and cease when these nerves are cut, as he himself has proved. The explanation of this non-action of the œsophagus is, that as the pneumogastric is an excito-motor nerve, when it is cut the muscular fibres of the œsophagus are not called into action, and a passive state is induced.

But other sympathies may be brought into operation. Vomiting occurs in hernia, in diseases of the intestines, and injuries to sensitive parts, as by blows upon the testicles. It also takes place in cases of the passage of gall-stones or renal calculi. The reflex sympathies in connection with gestation originate the vomiting so constantly observed in pregnant women; and this likewise is true as regards the misplaced uterus.

When vomiting proceeds from derangement of the circulation of the brain, or even of nutrition, or disease of the central organ, the condition of this organ may originate vomiting, or may be such as to constitute excessive susceptibility to impressions originating in the stomach or elsewhere. The term "brain-vomiting" is used in contradistinction to that arising from the stomach; and yet there is little difference between the two, for, with excessive excitability of the medulla oblongata, the slightest impression upon the stomach communicated to this centre may induce all the associated movements of vomiting. This is seen in the sickness of stomach attendant on loss of blood; and it may exist in disease of the brain, as tuberculosis. Disturbance of the circulation of the brain in cases of sea-sickness, and, what is analogous to it, the effect of swinging or rotary motion, is the cause of vomiting. Disagreeable sights, odors, or tastes, or even recollections of them, may affect the brain sensationally, and operate in the same way. Vomiting frequently follows upon violence to the head, as a blow upon it.

It is probable that when emetic substances are absorbed their effect is expended upon the nutrition of the base of the brain. In Magendie's experiments, tartar emetic and other substances produced vomiting; even the injection of distilled water into the circulation was followed by this result. Articles of a sedative character produce their effects by absorption, thus modifying the organic condition of the motor tract of the brain. It is in this way that opium, colchicum, digitalis and tobacco, aconite and veratrum viride, produce vomiting with great prostration. Under the full influence of these articles the stomach may remain quiescent until food is taken, when it excites sympathetic movements. This excitability is analogous to convulsibility, which leads to convulsions, and which seems to belong to the entire motor tract of the brain and spinal marrow.‖ In many cases a state of exhaustion, or loss of nerve-generating force, is at the foundation of this excessive susceptibility to impressions that occasion vomiting. Hysterical vomiting is of this nature. It has been stated by authorities that emesis is maintained by habit. The probability is that it is maintained either by the cause above specified or by obscure disease.

Vomiting, as a symptom of disease, always merits the serious consideration of the physician, "since it is most frequently the expression of serious trouble in the functions of the nervous system or in the composition of the blood,—particularly if the phenomenon be spontaneous and has no apparent especial cause in the digestive apparatus."¶

It must be perceived from this exposition that the centric and eccentric origin of vomiting are most intimately blended.

Some individuals possess the faculty of ejecting the contents of their stomachs at will. In this case the act is accomplished by bringing to bear the pressure of the abdominal muscles upon the stomach after a full inspiration, and by exercising the voluntary power in efforts of retching. Irrespective of mere voluntary effort, the reflex movements may be brought into play by this attempt, especially from the throat, as in the case of the finger being introduced into it. Magendie states, "I have many times seen such persons press their hand strongly upon the epigastric region in order to aid the abdominal muscles. This faculty of emptying the stomach is said to have been extensively practised by the ancient Romans, and in modern times has been cultivated by gluttons."

The force with which the operation of an emetic takes place has been adduced as an argument by Magendie against the doctrine that the act is accomplished by the stomach alone. The matters ejected are not only discharged from the mouth, but they are thrown out with violence and scattered in all directions. They come not from the mouth alone, but through the nares. "It may be judged from these effects that the pressure is enormous that occasions their expulsion from the stomach."**

The part which is taken in the operation of emetics by the nervous centres is further shown by the diffi-

* Elements of Physiology, vol. i. p. 557. Gazette Médicale, 1841, p. 85.

† Journal de l'Anatomie et de Physiologie, 1869, No. 2.

‡ Archives Générales de Médecine, tome v., Paris, 1824, p. 182.

⁂ This incitation proceeds from the trifacial.

‖ In speaking of the mode of action of emetics introduced into the circulation, Müller states that "there is no very evident explanation of it, or, rather, we do not possess sufficient data to enable us to determine the question in a decided manner." He supposes that an emetic, as tartar emetic, introduced into the blood, acts upon the organs which participate in the act of vomiting through the medium of their blood-vessels (vol. i. p. 557). From what has been expressed in the text, it is clear that the impression of emetic substances introduced into the circulation is made upon the nervous centres,—that an inordinate tendency to disturbance is created, which may assume the form of vomiting by reflex action from the stomach, or even from other organs.

¶ Magendie, loc. cit.

** Dictionnaire de Médecine et de Chirurgie pratiques, vol. xv. p. 766.

culty of bringing an individual under their operation who is in a profoundly narcotized condition, or laboring under an apoplectic attack, although a certain degree of narcotism in particular idiosyncrasies may induce vomiting, and in the incipiency of apoplectic attacks it is not an unusual concomitant. Where the nervous centre is obtunded, it is with difficulty or not at all likely to be impressed. The removal of this condition of the brain becomes necessary to bring on vomiting in cases of narcotic poison. It may be accomplished by the dash of cold water on the head, or by revulsives, or by local abstraction of blood.

ORIGINAL COMMUNICATIONS.

CASE OF POPLITEAL ANEURISM CURED BY COMPRESSION,

UNDER THE CARE OF DR. D. HAYES AGNEW.

BY JEROME LONGENECKER, M.D.

THE patient, an Irishman by birth, a watchman by occupation, is sixty years of age, and has enjoyed good health, having entirely escaped illness for the past twenty years, until the occurrence of the present disease.

The history of the case, as given by himself, is as follows: About three months ago he noticed that the right leg was considerably swollen, and that the swelling was accompanied by a gradually-increasing pain, rendering locomotion difficult. Upon the application of some liniment, this slowly disappeared. Between three and four weeks later, his attention was attracted by a pain seated in the right popliteal space and to its outer side, and upon examination he discovered a small pulsating tumor, about the size of a pigeon's egg, which afterwards grew rapidly, and was accompanied by a continually-increasing burning pain.

On inspecting the right popliteal space, a tumor, about four inches in length, having a very marked prominence, was visible, situated rather more towards the outer side, and having a full, firm pulsation which could easily be seen, and which corresponded to the pulsation of the femoral artery, and ceased when pressure was made upon the latter. The patient was put under treatment Tuesday, April 9, at 12 M., and this consisted in the use of Bellingham's compressor, the object being to cut off all circulation through the tumor, in the hope that a coagulum would form in the course of five or six hours. The limb was first carefully bandaged from the toes up to the knee, and the instrument adjusted in such a manner as to make pressure upon the femoral artery near the apex of Scarpa's triangle. Muslin compresses were used to protect the skin as much as possible from irritation. In fifteen minutes after the application of the tourniquet, the patient became so restless that it was deemed advisable to administer an anæsthetic. He was accordingly kept under the influence of ether just short of the stage of excitement, until 3 o'clock P.M.; and, although some degree of nausea was produced, vomiting did not occur. At 3 o'clock P.M., the compressor was moved for the first time, the femoral artery being controlled by the fingers of an assistant while the instrument was being reapplied at a point a little higher up. The anæsthetic was now withheld, and when the patient had recovered from its influence some nourishment was given, after which the administration hypodermically of a fourth of a grain of the sulphate of morphia enabled him to endure the pressure so well that the anæsthetic was not again resorted to. The patient now, however, complained a good deal of the burning sensation in his leg consequent upon the enlargement of the anastomosing vessels.

By evening the tumor appeared to be a little more firm, but pulsation still could be detected upon even a slight diminution of the pressure. During the night, the pain becoming more severe, the tourniquet was changed every two hours, and towards morning a fourth of a grain of the sulphate of morphia was given hypodermically.

Wednesday, 11 A.M.—Pulsation considerably diminished, and the tumor much firmer; but, the patient's thigh by this time being so much irritated by the prolonged pressure, it was found necessary to abandon the instruments, and to resort to digital compression, which was done at once. After this form of treatment had been maintained for five hours, the condition of the tumor was tested by slowly diminishing the pressure upon the femoral, and it was found that pulsation had ceased and the parts were quite hard. As a precautionary measure, however, the treatment was continued until Thursday morning at eight o'clock, after which the patient was ordered to remain perfectly quiet in bed.

The total duration of the treatment was forty-four hours:

By Bellingham's Compressor, 23
By digital compression, 21—44.

Beef-essence and milk were given as often as the patient could be induced to take them.

Digital pressure was made at the point where the artery passes over the pubis, but not firmly enough to cut off all blood, a very small portion being allowed to pass under the fingers. The patient was very little—scarcely at all—depressed by its use, notwithstanding the irritated condition of his thigh, the upper portion of which necessarily had to be encroached upon in changing hands. Each assistant was able to press for half an hour before being relieved.

The following-named gentlemen, graduates of the University of Pennsylvania and members of the medical class of 1872–3, generously gave their services; and the successful termination of the case is in a very great degree due to the patience and skill which they manifested throughout: Drs. Valdivieso, Finley, Rea, and Hoff; Messrs. Estrazulas, Ellis, Hopkins, Neil, Hayes, Belford, Ransley, Edwards, McDonald, Rush, Duncan, Guiteras, and Bruen.

XYLOL.

BY RICHARD MOFFETT, M.D.,
Philadelphia, Pa.

THIS is a new remedy, recently discovered by a German chemist, and is used at the Royal Hospital in Berlin, in the treatment of smallpox. It is found in wood-tar and coal-gas naphtha. My first experience in the use of the remedy was in the following case. I was called to Mrs. Sophia H., a German woman, aged forty-two years, on March 27. She was suffering with preliminary symptoms of smallpox, which in a few days developed into the confluent form. My usual treatment failed to give any relief whatever, and she was fast sinking. On April 8 her pulse was 155, respiration 40, tongue brown, dry, and hard; the ends of her fingers and nails were purple, and her face was entirely covered with black scabs. The tonsils and parotid glands became so much affected that it was with the greatest difficulty that anything could be swallowed. She suffered from great restlessness, and was unable to obtain sleep even after taking large doses of chloral and morphia. Having obtained some of the new remedy,—xylol,—I determined to try it in her case. I gave her the following prescription:

℞—Olei xylol., gtt. cc;
Pulv. acaciæ, q. s.;
Syrupi simplic.,
Aquæ, āā f℥j.
S.—A teaspoonful every two hours.

I called the next day, and found her sitting up in bed. All the graver symptoms had disappeared. Her tongue was quite moist, pulse 98, respiration 22. She told me the medicine relieved her at once; and her husband said that after taking three doses she went to sleep, and slept for four hours.

April 14.—The patient is quite talkative, and can swallow without difficulty. From this time forward her convalescence was uninterrupted. At this date, April 19, she is able to go about the house, suffering only from a partial loss of the right eye. She was vaccinated when an infant, but bore no mark. I have tried this remedy in a number of cases since, and its use has always been attended with the most happy results.

PNEUMONIA COMPLICATED WITH SINGULTUS.

BY HORACE Y. EVANS, M.D.

ON the evening of the 23d of February last, I was called to see Mr. R., æt. 30. He had taken a severe cold on the 20th, followed by a chill, fever, headache, pain in right side, and cough. When first seen, he had commenced to expectorate a viscid, bloody sputa. His pulse was 120; respiration, 26. The lower and posterior part of right lung was slightly dull. Subcrepitant râles were heard in the same position. A very marked symptom attending this condition was an excessively nervous state; he could control neither voice nor hands. I ordered poultice, cathartic, potash, and morphia.

24th.—Had a bad night. Pulse, 124; respiration, 26; profuse perspiration. Singultus superseded the cough at six o'clock last evening, and now continues at the rate of fifteen per minute. Posterior and lower part of both lungs dull and crepitant. Continued the poultice, and ordered milk, quinia, and water-ice, and for the hiccough, a combination of chloroform, camphor, and valerian.

25th.—All his symptoms are aggravated. The hiccoughs average twenty-six per minute. Ordered gr. xx of bromide of potassium every two hours, and gave him one-fourth of a grain of morphia hypodermically at night.

26th.—The morphia produced stupor, but did not interrupt or modify the singultus. Pulse, 130; respiration, 36; neither cough nor expectoration. Ordered ammonia, stimulants, milk, quinia, and opium. Dr. Baldwin saw him with me this evening.

The patient's condition continued without material change during the 27th and 28th, during which we employed pressure and belladonna-plaster over the hypogastrium, collodium cum cantharide over the cervical vertebræ, musk, morphia, chloral, and turpentine. I gave him gr. c of hydrate of chloral in four hours, and one-half of a grain of morphia hypodermically in ten hours,—both producing like results—a dull stupor—without *in the least* palliating the diaphragmatic spasm.

29th.—Dr. A. S. Gerhard saw him in an emergency at ten o'clock last night, and ordered one-sixth of a grain of calomel every hour. The hiccough stopped for thirty minutes at six o'clock this morning, and then returned with former vigor. Pulse, 109; respiration, 40; slight cough and scanty rusty sputa. I continued the calomel until he had taken gr. vi. Gave him oil, and applied ice in a Chapman's bag to the cervical vertebræ two hours at a time,—then omitting it for two hours. After the first application, there was an interruption of the singultus for an hour. The second application was followed by an interruption and sleep of four hours.

March 1.—Pulse, 90; respiration, 25; singultus, 10; a loose cough and abundant rusty sputa; bowels free; urine scanty; uric acid in excess. Continued ice to the neck at intervals of two hours, milk, quinia, and iron.

March 2.—Slept six hours. Pulse, 87; respiration, 26. The spasms of the diaphragm so slight that they produce only a waving motion of the abdominal and thoracic viscera three or four times in a minute. He continues to cough up a large quantity of rusty sputa. Continued ice to neck, beefsteak, milk, quinia, iron, and expectorant mixture.

March 3.—Every vestige of singultus gone. Slept eight hours without morphia.

From this date his recovery was rapid and uninterrupted.

It has been my experience to see a number of cases of disease complicated with hiccough, but I have never before seen an attack so severe and so long-continued terminate in recovery. I cannot but conclude that either the calomel or the ice-bag, or probably both, was the efficient instrumentality. To avoid empiricism and adhere to theory, we credit the result to the ice.

CASES OF CEREBRO-SPINAL MENINGITIS.

BY EUGENE P. BERNARDY, M.D.

I REPORT the following five cases, in order to show that cerebro-spinal meningitis existed in the city during the spring. The cases all came under my care in the short space of one month.

Case I.—M. W., aged 2 years, a strong and healthy child, was suddenly taken with a chill, prostration, pain in the nape of the neck and lower part of the back of the head, headache, eyes congested; the least touch would set the child screaming; tenderness of throat, and vomiting of a yellowish matter; no convulsions, but the head was constantly bent backward. I saw the case about six hours after the attack came on (March 16). I immediately ordered a mustard-bath, applied a blister over the nape of the neck, and gave internally one grain of sulphate of quinia every hour, and a purge of calomel and rhubarb. I saw the case again the same evening: there were evacuations of black, offensive matter; the fever and headache were abated. Quinia was continued; beef-tea and nourishing food were ordered. In one week the patient was discharged, cured.

Case II.—T. H., aged 3 years. The mother, supposing that it was affected with measles, attended to it at first herself; but, the child getting worse, I was sent for on March 21. I found the child completely covered with an eruption of petechiæ. The spots presented some resemblance to those of measles; some were round, but many were perfect squares, of a dark-purple color, and did not disappear on pressure. The face was swollen, and the head retracted; there was pain, on pressure, along the upper part of the spine; convulsions (which, gradually yielding to treatment, left the child in a sort of tonic spasm); vomiting of a yellowish matter; and tenderness of the throat. I ordered the same treatment as in Case I., only adding carbonate of ammonia and whisky. The child, however, never rallied, and, falling into a comatose condition, died quietly on the 23d of March.

Case III.—K. O., aged 16 months. I found the child, March 27, in convulsions. The eyes were injected; there was pain along the upper part of the spine; the pupils were contracted; the face was pinched (especially the forehead); the tongue white; the least touch would throw the child into spasms; the bowels were constipated; there were high fever, and difficulty in swallowing, but no petechiæ. I ordered a mustard-bath, and counter-irritation along the spine with mustard to be constantly kept up, a purge of calomel and rhubarb, and one grain of sulphate of quinia every hour. I also gave in this case carbonate of ammonia and whisky. The child fell into a comatose condition, and died quietly on March 30.

Case IV.—M. B., aged 12 years. I saw the case on March 27. The child was delirious; there were convulsions, high fever, constipation, excessive pain in the nape of the neck and limbs, and slight punctated spots about the size of a pin's head on the skin; the eyes were congested; the tongue was coated white; the pulse 100. A blister was ordered to the nape of the neck, ice to the head, a purge of calomel and rhubarb, and two grains of sulphate of quinia every hour till

six doses were taken, then to lengthen the time to every three hours. Next day the delirium and convulsions had ceased; the nausea from which the child suffered a great deal was also allayed. The child had, during the night, a dark, offensive evacuation. The left eye was turned inward. Beef-tea and two grains of quinia were ordered every three hours. In two weeks the child was discharged, cured, with the exception of the left eye, which remained turned inward.

Case V.—R. M., aged 6 years; a very pretty and intelligent child; rather delicate; was taken with a chill on April 10, prostration, excessive nausea, but no vomiting; the tongue was coated white; the face and eyes were congested; there were high fever, pains in the back of the neck and lower part of the back of the head, and frontal headache. I saw the child about one hour after the attack came on, and found her restless, somewhat delirious, screaming on the lightest touch. She had spasms, but no true convulsions. The throat was painful, and there was some difficulty in swallowing, and constipation, but no petechiæ. I immediately ordered a blister to the nape of the neck, a purge of calomel and rhubarb, and one grain of sulphate of quinia every hour. I saw the patient the same night at nine o'clock: the blister had drawn well; the fever was not so high, and there was still slight delirium and restlessness. I ordered half a drachm of the oil of turpentine to be made into an emulsion, and to be injected into the bowels; two grains of sulphate of quinia every hour till four doses were taken, then the same quantity every three hours. The next morning the fever had almost disappeared, but the tongue was still coated very white. The patient was no longer delirious; she had had during the night an evacuation of light-colored matter. She was ordered beef-tea, eggs, and quinia (gr. ij) every three hours. The patient gradually improved, and in about one week was discharged, cured.

In looking over the records of the cases, what is most striking is the suddenness of the attack, bringing a strong and healthy child in a few minutes to the verge of the grave, with hardly any premonitory symptoms. In two of my cases the disease was followed by a simple feeling of lassitude. A symptom which was never absent—and which, according to Dr. North, is pathognomonic—was the condition of the throat. Another thing to be noticed was the absence of petechiæ in three cases.

In looking over the treatment, it will be found that counter-irritation along the spine, and quinia, were mainly relied upon. According to Dr. D. Gilbert and J. J. Levick, sulphate of quinia proved successful in their hands in the treatment of the disease. I can corroborate their statements. I found that to produce the good effects of the medicine it must not be employed with a sparing hand. The quicker your patient is under the influence of the medicine, the better. I have not found it to affect the head; on the contrary, the headache disappears under its use, and where, but a few hours before, delirium held sway, under the influence of sulphate of quinia tranquillity is restored. I used injections of oil of turpentine only in my last case, and their effects were most excellent, producing an evacuation in less than half an hour, and stimulating the patient.

THE TINCTURE OF EUCALYPTUS GLOBULUS AS A DRESSING FOR WOUNDS.—M. Demarquay, in the course of some experiments at the Maison Municipale de la Santé of Paris with the tincture of the leaves of this plant, which has a very agreeable odor, and is believed also to possess disinfecting, antiseptic, and healing properties, found that it often gave good results in cases in which the more usual remedies had failed. He adds that the tincture acted not merely by disinfecting and ameliorating the surface to which it was applied, but that its effect in removing the fetid odors which had rendered the patients unable to eat or sleep was still more beneficial. The sick-rooms, becoming impregnated with the aromatic odors peculiar to the leaves of the Eucalyptus, were entirely free from the odor of fetid emanations.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY OF PENNSYLVANIA.

CLINIC OF PROFESSOR AGNEW.

Reported by Dr. ELLIOTT RICHARDSON.

LITHOTOMY.

AT the clinic held October 21, 1872, a man aged 27 years was presented, who had suffered since childhood from symptoms of stone in the bladder. The symptoms usually indicating the presence of vesical calculus—namely, a frequent desire to pass water, difficulty in commencing to do so, sudden stoppage of the stream, pain in the back, loins, and at the end of the penis, a sense of weight in the pelvis, with irritation of the rectum, and pain during defecation—were present in a marked degree in this case, and the patient, worn out by protracted suffering, was pale and emaciated. The lecturer said that, although these symptoms were usually associated with vesical calculus, they did not of themselves constitute a certain indication of this affection.

A positive diagnosis could be arrived at only by the use of the sound; and, in some cases, repeated attempts are necessary even with this instrument to detect the presence of the irritating body.

Urinary calculi have their origin usually in the formation of small concretions of uric acid in the pelvis of the kidney, which, passing into the bladder, form nuclei around which the triple phosphates, uric acid, and oxalate of lime accumulate in concentric layers, though sometimes a foreign body introduced through the urethra, or even a clot of blood, may form the nucleus of a stone. Though vesical calculi are usually composed of two or more of the constituents above enumerated, arranged in alternate layers, yet they may consist of but one of these, and where composed of oxalate of lime alone, constitute the "mulberry calculus," remarkable for its roughened surface and compact structure.

The presence of stone in the bladder is followed by changes in the mucous membrane of the latter, due to the mechanical irritation of the offending body. It becomes thickened, and discharges epithelial cells and mucus in greatly-increased quantities. These, undergoing decomposition in the urine, often render it ammoniacal, thus facilitating the precipitation of the triple phosphates and the consequent growth of the stone.

The Professor next alluded to the importance of a careful preparation of the patient for operation. If from a distance, a few days of quiet and rest should be allowed to elapse before any attempt at operation is made. The bowels should be gently evacuated by the use of a cathartic, and the urine should be examined and carefully tested. Diuretics should be given, and combined with an alkali when the urine has an acid reaction.

In preparing for the operation, a short table should be obtained, of a proper height, and covered with a mattress or folded coverlet. The necessary instruments should be provided, consisting of a sound, a scalpel of large size, a grooved staff to answer the purpose of a director for the knife after penetrating the neck of the bladder, one or two pairs of bladder-forceps, a scoop, and a syringe. A few ounces of dilute mucilage, either of slippery-elm or of flaxseed, carefully strained, should be provided. Means for checking hemorrhage should also be at hand, such as astringent solutions, lint, aneurism-needles, gum catheters, and ligatures. The operator should have five assistants,—one to administer ether, one to hold the staff, one to hand instruments, etc. as needed, and two to hold the limbs apart.

The necessary preparations having been made, the patient was brought into the room and placed upon the table. He had been in the ward for several days, and had been treated with cathartics and a preparation consisting of uva ursi, lupulin, and bicarbonate of soda. The urine had been examined and found to be free from any evidence of renal disease, and to have an alkaline reaction. A sound was introduced and the stone detected without difficulty.

The patient was then etherized, and a few ounces of mucilage were injected into the bladder. The hips were brought down to the edge of the table, the feet placed beside them, and the knees held forcibly apart.

The grooved staff was introduced and held firmly against the arch of the pubis, inclined a little to the right side.

The Professor then proceeded to perform the lateral operation for stone. An incision 1¾ inches to 2 inches in length was made in the perineum to the left of the median line, and the neck of the bladder reached and incised.

This incision was then enlarged with the finger, a pair of forceps introduced, and the stone removed with some difficulty, owing to its size and to the necessity of detaching it from the walls of the bladder, to which it had become adherent. It was very large, weighing while moist four ounces and six drachms, and was composed of uric acid and the triple phosphates.

After the operation, the bladder was washed out with cool water, and the patient carried into the wards. Twenty-five drops of the deodorized tincture of opium were given at once, and during the succeeding night forty drops.

October 25.—The patient has had some serious symptoms, which began the day succeeding the operation, and which were produced by an attack of vesical peritonitis. These symptoms were treated by the use of leeches, revulsives, and a liberal administration of opium; and under the use of these the condition of the patient has much improved.

There are now evidences of sloughing in the wound. The patient is taking a half-ounce of whisky every four hours. He is passing water through the wound freely.

Nov. 1.—The patient is now doing as well as can be expected. Pulse less frequent and of greater strength. Temperature also lower, and every other symptom favorable except a little sloughing of the wound.

Nov. 18.—Is now doing very well. The urine passes principally through the urethra, and the wound is filling up with granulations. The patient sits up in bed, and is desirous of getting up, but it is not thought prudent to allow him to do so.

Jan. 20, 1872.—The patient is to-day discharged from the ward in good health. He can retain his urine four hours at a time, but has a small opening in the wound, through which a few drops of urine pass during micturition only.

LUXATION OF HUMERUS.

The patient was a man 67 years of age, in rather feeble health. Three weeks ago he fell from a wagon, striking one shoulder, and producing a dislocation of the head of the humerus downward into the axilla. No treatment had been adopted in the case, and the arm was at this time somewhat swollen, and subject to feelings of numbness and cold, due to the pressure of the head of the humerus upon the nerves and blood-vessels in the axilla. The usual symptoms of luxation of the humerus were present in the case, and the head of the bone could be distinctly felt in its abnormal position. Prof. Agnew said the head of the humerus might be displaced downward, backward, or forward, but could not be displaced upward without fracture of the acromion process; although some writers assert that a subluxation in this direction occasionally occurs.

In accomplishing reduction, if the head of the bone be not in the axilla, it must first be brought there by manipulation, and then restored to its normal position by one of the several modes recommended. When the bone has been out of place so long as to contract adhesions to the surrounding structures, a rotary motion is necessary to detach it before efforts at reduction are made.

The patient was then etherized, when the adhesions were found to be very firm. They were, however, broken up, and the arm being held by the surgeon upward by the side of the head in a line parallel with the long axis of the body, according to the method of Mothe, reduction was accomplished without difficulty, the scapula being fixed by the foot of the operator placed upon the acromion.

Directions were given to retain the arm in a Velpeau bandage for two weeks, at the expiration of which period the patient may attempt the ordinary motions of the arm with safety. The joint will not regain entirely the freedom of motion of an uninjured joint, for the inflammatory roughening of the synovial surfaces never becomes entirely obliterated, and the damage sustained by the capsular ligament in consequence of its rupture and the passage of the head of the humerus through it renders it less capable of offering resistance to a subsequent dislocation.

TREATMENT OF TUBERCULAR LEPROSY.—At a recent meeting of the Clinical Society of London (*The British Medical Journal*, May 18), Dr. Tilbury Fox exhibited a patient eleven years of age, suffering from tubercular leprosy, in whom marked amelioration had been effected by the use of large and continued doses of quinia. The case was the fourth which Dr. Fox had treated recently in a similar manner, and in the other cases the improvement had been more marked. The child had a well-marked leonine expression of countenance, caused by thickening (from deposit of leprous granulation-tissue in the skin) of various parts of the face. There was also brown discoloration of the entire surface, with a few anæsthetic spots, deposit of new tissue about the conjunctiva and the mucous membrane of the palate, etc. The general thickening or deposit in the integuments of the face and body had lessened; the voice was clearer; the snuffling resulting from deposit in the nasal mucous membrane had gone; and altogether the child had improved. The oil of cashew had been applied for the first time a few days before the day of the Society's meeting, in order that the Fellows might see its action. Dr. Fox stated that not only the oil of cashew, but carbolic acid and arsenious acid, used locally, dispersed the tubercular formations. But the oil of cashew in his hands had been very successful in this respect, though it required to be used with care.

THE MONOBROMIDE OF CAMPHOR.—Dr. William A. Hammond, in a note to the *New York Medical Journal* for May, calls attention to the therapeutic properties of this substance. He has used it in the treatment of the following conditions, and always with success: infantile convulsions, due to the irritation of teething; headache, occurring in women and young girls, and due to mental excitement and excessive study; and wakefulness. It also produced relief in a case of hysteria, occurring in a young married lady in the form of paroxysms of weeping and laughing, alternating with epileptiform and choreiform convulsions. He says it is apparently also indicated in delirium tremens, but he has not yet had an opportunity of trying it in that disease. It may be given in the form of pill with conserve of roses as an excipient, or as a mixture with mucilage of gum-arabic and syrup. The dose for adults ranges from two to five grains.

The monobromide of camphor consists of one equivalent of camphor united with one of bromine ($C_{10}H_{16}O$, Br.). It is a white crystalline solid, having the odor of camphor, and to a slight extent that of bromine. It decomposes readily when exposed to the atmosphere, to a heat of 100° F., or to the action of ammonia.

NOCTURNAL ERECTIONS.—Dr. Polak describes (*Wiener Medizinische Presse*, May 19, 1872) a form of nocturnal erection which does not seem to be excited by lascivious dreams, which comes on a short time after the sufferer from it goes to bed, and which is not followed by an emission of semen. In some cases the erection occurs every night, and leaves, next morning, a good deal of sensitiveness of the testicles, so that life becomes a burden in consequence of it. In one case, after the usual remedies had failed, Dr. Polak directed that the patient should, before going to sleep, bandage his penis with a piece of flannel about an inch in width,—beginning to bandage at the root of the organ, and when the end was reached returning again to the root. The penis is then to be fastened to the thigh. This was found entirely to prevent the erections from taking place.

AN interesting application of the constant galvanic current has been recently made by M. Lefort (*Gazette Médicale de Paris*, April 13) in a case of diabetes. He applied the positive pole to the back of the neck, and the negative pole to the hepatic region. The patient was in the habit of passing five or six quarts of highly-saccharine urine; but under the influence of the daily application of the constant current the quantity diminished to two quarts in twenty-four hours, and the proportion of sugar was about one-fourth of what it had been. The treatment, unfortunately, was interrupted at the end of a month, and nothing further is known of the history of the patient. Notwithstanding this, the amelioration of the symptoms produced by galvanism in this case affords ground for hope that it may have the power of curing diabetes.

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EDITORIAL.

THE UNIVERSITY HOSPITAL.

IT is well known to our readers that for a little more than a year past several gentlemen connected with the Medical Department of the University of Pennsylvania have been making strenuous efforts to raise a sufficient sum of money to enable the trustees of the institution to erect in the immediate vicinity of the new buildings of the Department of Arts, in West Philadelphia, a hospital which would be under the immediate control of the trustees, and which would afford the best clinical advantages to the students of the medical department. Recent events seem to indicate that their efforts will be crowned with success. The Legislature of the State, during its recent session, made a grant to the trustees of the University of $100,000 towards this object, provided that $250,000 additional was obtained from other sources; and we are happy to hear that $190,000 of this has already been subscribed. More recently the Councils of this city have conveyed to the trustees of the University, for the nominal sum of $500, "all that certain tract or piece of land situate in the Twenty-seventh Ward, bounded on the north by the middle line of Spruce Street, on the east by that of Thirty-fourth Street, on the south by that of Pine Street, and on the west by that of Thirty-sixth Street, containing five and a half acres, more or less," on the following conditions: first, that the said tract of land shall be forever held by them for the purpose of erecting thereon and maintaining a building or buildings to be devoted to general hospital purposes; second, that they shall erect and complete the said building within five years from the first day of July, 1872; third, that they shall set apart and forever maintain in the hospital at no time less than fifty free beds for the use of the poor of the city requiring hospital treatment; fourth, that they shall report to Councils, in the month of January succeeding the erection and completion of the hospital, and annually thereafter, the number of free beds maintained, together with such other information as may be desired by Councils. In the event of the failure of the trustees to comply with these very liberal terms, or on the attempt on their part to sell or alienate the land or a portion of it, the land, with the buildings upon it, shall revert to and again become the property of the city of Philadelphia.

At a meeting of the alumni of the Medical Department of the University, which was held during the recent session of the American Medical Association in this city, it was unanimously resolved that a special fund should be raised for the endowment of an Alumni Ward in the proposed hospital. It is desirable that this ward should contain not less than ten beds; and, as the endowment of each bed costs at least $5000, a fund of $50,000 must be raised before this object can be accomplished. The amount so far subscribed for this purpose is between $5000 and $6000; but we are glad to hear that contributions are rapidly coming in.*

The plans of the hospital, it is said, are being matured, and it is confidently expected that the ground will be broken during the present summer.

The work of bringing about this very desirable result has mainly fallen upon several of the younger members of the profession who are attached to the school as lecturers; and we think it augurs well for the future of medical teaching in Philadelphia that the young men connected with both the schools of medicine in this city are so fully alive to the necessity of clinical instruction forming an integral part of the course. We believe that a movement is on foot to enlarge the hospital accommodations already attached to the Jefferson Medical School; and, from the known energy which characterizes the faculty of that institution, we think it will not be long before she emulates the example of her elder sister. With the University and Presbyterian Hospitals completed, Philadelphia will be better provided with hospital accommodations than many cities having a greater number of inhabitants; for although the number of beds is less here than in New York, both absolutely and relatively to the population, there are fewer demands for relief of this kind in a city like Philadelphia, where every mechanic and even laborer is comfortably housed, and where the necessaries of life are within the means of every workman.

AN EXAMPLE WORTHY OF IMITATION.

A MOVEMENT has just been set on foot in Berlin the object of which is to afford shelter and assistance to persons who are unfortunate enough to meet with accidents after nightfall, until they can be removed either to their own homes or to a hospital. At present there are only two stations, which are distinguished during the night by an illuminated red cross. Six physicians and three experienced nurses are attached to each station, two of the former and one of the latter going on duty every evening after ten o'clock. They are provided with all the medicines and instruments likely to be needed in an emergency.

In New York, the Governors of the New York Hospital, which was demolished a few years ago to make room for stores, have determined to devote a portion

* Alumni of the Medical Department of the University of Pennsylvania who feel disposed to contribute to this object should send their contributions to Dr. William Pepper, Chairman of the Hospital Committee.

of the revenues of the institution to a very similar object. The removal of the hospital has left a very crowded part of the city entirely unprovided with hospital accommodations, and those who by a sudden injury or acute illness may stand in need of them must now, frequently, be transported some miles to the Bellevue or some other up-town hospital. A house is to be taken in some accessible portion of the city, where patients can be temporarily cared for.

In this city, whenever an accident occurs it is the custom to summon to the aid of the sufferer the nearest physician, whose services are almost always unrequited, although often rendered at great inconvenience, and sometimes, in consequence of the demand made upon his time, at a pecuniary loss. It would of course be impossible to organize a public medical service which would be so efficient as to render it unnecessary ever to call upon private physicians, and there are occasions in which they would always cheerfully give their aid; but it does seem to us that the disastrous consequences of accidents might sometimes be averted if every station-house were fitted up as a temporary hospital, and if in every ward of the city there were one or two physicians whose duty it should be to respond at once to the call of the police.

THE MEDICAL AND SURGICAL HISTORY OF THE WAR.

THE Miscellany in our last number contained the request of Surgeon-General J. K. Barnes for permission to print the two remaining parts of the Medical and Surgical History of the War. The amount of money required to do this is small in comparison with the good which would accrue to medical science from their publication, and we sincerely hope that Congress may grant the necessary appropriation. Much time and money have already been spent in the collection and preparation of materials for the work, and it would be a false economy which would prevent its completion.

CORRESPONDENCE.

OPHTHALMOLOGY ABROAD.

LETTER FROM DR. A. D. HALL.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES.

DEAR SIR,—In my last communication about the Royal London Ophthalmic Hospital, I spoke more particularly of Messrs. Bowman and Critchett. Although they are probably the "lions" of the hospital, and are better known abroad than their colleagues, there are other eminent men and able operators on the hospital staff. Mr. Jonathan Hutchinson made an extremely favorable impression upon me. How he does so much work in such different specialities, and does it so well, was to me a subject of wonder. Besides his appointment at Moorfields, he is surgeon to the London Hospital, a large and busy house in Whitechapel, and to a hospital for skin-diseases.

To those familiar with medical literature, it is only necessary to refer to his various papers as distinguished by rare powers of close observation. The "notched teeth" of Hutchinson are probably familiar to many a practitioner who does not know of him as an ophthalmologist. In a conversation with him upon the external characteristics of inherited syphilis, he referred to a peculiar appearance of the temples in these cases. It consists of a furrow or excavation in the space between the zygomatic arch and the superciliary ridge of the orbit. It certainly was well borne out by a number of cases seen on that special occasion. He referred to the great frequency with which hereditary syphilis was seen at the hospital.

Mr. Streatfield impressed me as being a remarkably adroit operator. In extraction of cataract he uses a method of incision peculiar to himself. It consists of the following procedure: Introducing a Beers' knife almost perpendicularly into the cornea at its sclerotic junction, he skirts along the edge of the anterior chamber until he has made a sufficient opening for the escape of the lens. The after-steps of the operation do not differ from those in common use. He prefers the Beers' knife for iridectomy, or for any operation to open the cornea. He does not like the keratome; his objection to it is that it is essentially a blunt instrument, that has to be forced into the cornea. He certainly operates very delicately and well, strange as his manner of using the knife may appear to those unaccustomed to it.

In going around his wards with Mr. Hulke, I was shown a case of rodent ulcer, situated at the left inner canthus in an old man. He had extirpated the disease as thoroughly as possible with the knife, and had then applied chloride of zinc paste. He expressed himself as well pleased with this mode of dealing with such cases. During a late visit to the Mater-Misericordiæ Hospital in Dublin, he had seen quite a number of such cases, where they were looked upon as intractable, and nothing was attempted to be done for them. A case was shown in which a melanotic tumor was removed by the knife and caustic from the left orbit of an old woman, and from which even the bony walls of the orbit had come away with the slough, so that the ethmoid cells and base of the brain were exposed. The usual run of cases of conjunctivitis and iritis was to be seen among the out-patients. One case was of interest; it was a dislocation of the lens downwards, with tilting forward of its superior edge. In the opposite eye there was partial closure of the pupil, with posterior synechiæ. On inquiry, I learned that quite a number of cases of optic neuritis were met with, and that many of them occurred in young women from menstrual difficulties, and in older women from uterine diseases. Retinal apoplexy was thought in some cases to be a kind of vicarious menstruation.

Fatty degeneration of the effused blood-clots had not unfrequently been seen.

The ophthalmoscope room excited my liveliest admiration. It was large and roomy, with blackened walls, and had nearly if not quite a dozen stalls, each one provided with an Argand burner; thus permitting a number of cases to be examined at the same time. So far as its appointments went, it was superior to anything I saw in London or Vienna.

I assisted Mr. Wordsworth in the enucleation of the right globe of a young woman, for internal suppuration. A curious fact in the history of the case was that there was protrusion of the fellow-eye in connection with thyroid hypertrophy. Going around the wards with Mr. W., I saw a case of upward flap-

extraction by Mr. Bowman, in which there had been some prolapse of the iris, forming a cystoid cicatrix. The result of one of Mr. Critchett's new operations was shown with a good circular pupil. The operation I have previously described. It differs from Liebreich's simply in the location of the wound. There was also shown to me a case of divergent strabismus of the left eye, in which the external rectus had been divided and the internal rectus advanced and stitched to the cornea. Up to that time the operation had been a success. In another case one of the surgeons had cast a ligature from the external rectus, or rather its stump, and made it fast in the skin of the nose. I was informed that in some cases of obstinate double divergent strabismus a ligature had been thrown from the end of one rectus externus to the extremity of the other across the bridge of the nose. In speaking of the rarity with which herpes zoster ophthalmicus was seen with us, Mr. Wordsworth remarked that it was not commonly met with in London. He mentioned as an instance of this surprising occasional rarity of diseases in certain localities, that Pagenstecher, of Wiesbaden, and Hasner, of Prague, until a recent visit to London had never seen a specimen of molluscum, and took back with them preparations of the disease. Mr. Wordsworth showed a case of zonular cataract in a young lad. It was proposed to do an iridectomy to allow the light to pass the periphery of the lens. He operated very beautifully with two needles to break up a capsular opacity remaining after a Graefian extraction. On this occasion there was shown an interesting case of complete paralysis of the left third nerve in a young man, the result of syphilis.

Mr. Bowman and Mr. Critchett are entirely different in personal appearance.

Mr. Bowman is a slender, scholarly-looking man, with a quiet gentle face, and of medium height, apparently about sixty years of age. His hair is quite gray. Wearing no beard, and dressing in black, he presents a very professional appearance. His manner, though very quiet, is extremely kind and agreeable, especially so in his own house. In many little ways he showed a mind eager to acquire information, especially in matters relating to our own country. My recollections will always be agreeable of the hospitality and courtesy of Mr. Bowman and his family in their own home. I had many conversations with him as to the status and position of the profession in England. On mentioning to him the fact that a leading English medical journal had expressed great satisfaction at the marriage of a sister of the Marquis of Westminster to an English medical man, as indicative of a social rise in the position of the profession, he remarked that he did not think that the impression was correct; that the leading medical men of London had a certain position of their own, which the mass of the profession had not. In the case of the marriage referred to, the lady, not very young, had married Dr. Frank (a very handsome and agreeable man of society), formerly of the army, but now practising in Pau. It was generally believed in London, moreover, that the lady's family were not pleased with the alliance. Sir Thomas Watson is a near neighbor and friend of Mr. B.'s, and it was very interesting to me to hear anecdotes and sketchy descriptions of this well-known man. Quite lately he poured forth a flood of mimic indignation at the arrest of an able-bodied street-crossing sweeper. He lives with an unmarried daughter in Henrietta Street, and, spending much of his time at the window looking at the busy scene without, one morning he missed his sweeper from his accustomed post opposite his window; and, inquiring of his servant, he found that the police had appropriated his friend as a vagrant. Hence his complaint. The interest which every American medical man takes, or ought to take, in Sir Thomas, is my only excuse for introducing this little anecdote.

Mr. Critchett in personal appearance is just the opposite of Mr. Bowman. He partakes more of the *fortiter in re*. He is not, however, the rather coarse-looking man that many of his photographs represent him. He is quite a large, well-made man, bald, with a fringe of dark hair, dark side-whiskers; having a quick dark eye, a bright mobile face, with a very frequent humorous expression. If one might be permitted to use it, "jolly" would be the word most expressive of his manner. Among the operations of Mr. Critchett's which I witnessed, was one of a suction-operation upon a young girl in whom a soft cataract had been operated upon a few days before, and in whom, as a consequence, the anterior chamber was filled with lenticular matter. With a broad needle a small opening was made, and Bowman's suction-syringe was used. The only point worthy of notice was that the syringe was half filled with water, to prevent too sudden an evacuation of the anterior chamber and prolapse of the iris. He does the subcutaneous operation for strabismus, as in fact do all the Moorfield surgeons. With a pair of straight scissors he makes the wound below the insertion of the tendon, slides up the hook, engages the tendon, and divides it subcutaneously. He operates boldly and beautifully.

Mr. Bowman seemed to be impressed by Dr. Williams' (of Boston) suture of the cornea after flap-extraction. He asked me if I had seen any of the cases. One case I mentioned as having seen in Boston last summer, in which, after a double extraction with suture, after several days it was not easy to distinguish the line of cicatrix. Mr. Critchett thought that the suture might do well enough for traumatic injuries, but not after cataract-extraction. I mentioned a case formerly under my care, in which there was a wound extending throughout the vertical meridian of the cornea, and in which the aqueous humor drained off as fast as secreted, the iris prolapsed through the wound, and no form of compress or bandage would obviate this condition. A fine suture of one strand of sewing-silk through the centre of the corneal wound brought the edges into close apposition; the wound quickly healed without apparent irritation from the presence of the suture. In a case of injury of the eye in which the corneal wound gaped and was very slow in uniting, Mr. Bowman passed a suture through the edge of the cornea, did an iridectomy, and forcibly pulled away the anterior synechiæ which were present. This operation was followed by a double iridectomy upwards for acute glaucoma, in an old, thin, badly-nourished man, in whom the attack came on during acute bronchitis. Another double iridectomy was done in a case of chronic glaucoma; the left eye was amblyopic, in the right eye there was diminution of the inner field of vision. Mr. Bowman mentioned a case in which acute double glaucoma came on in a lady who had just undergone excision of the breast. The breast was in a sloughing condition; yet this had no ill effect upon the operation for glaucoma, and it did well. In following Mr. Bowman's practice, I observed that he resorted very freely to the use of the artificial leech.

During the winter, Mr. John Couper, one of the surgeons, gives a course of ophthalmoscopic demonstrations at four o'clock in the afternoon, followed by a lecture at five o'clock.

On the first occasion of my visit to one of them I found about fifteen or twenty gentlemen present. The majority of them appeared to be graduates; among them were Indian physicians and several army surgeons. Mr. Couper examined a case, announced his diagnosis, and then the students followed. All seemed to be familiar with the use of the instrument. The stalls were filled with patients, and the gentlemen waited their turn to examine the different cases. I saw an unusual appearance of atrophy of the choroid in a girl eight years old, apparently resulting from an effused blood-clot; accompanying this was a blue atrophy of the optic nerve. In the next stall a case of locomotor ataxia furnished a white atrophy of the nerve. There were many other cases, but, owing to the shortness of the time and the long sittings of many of the gentlemen, I did not have an opportunity to examine all so thoroughly as I wished to do. After an hour spent in this manner, Mr. Couper, followed by the class, went into an adjoining room used as a lecture-room, and delivered a lecture upon the normal and abnormal appearances presented by the optic nerve: explaining the conditions of ascending and descending neuritis, of optic nerve atrophy, demonstrating upon the blackboard the condition of the papilla known as the "choked disk." Liebrëich's Atlas was constantly used in illustration of the appearances spoken of.

Mr. Couper described his method of diagnosing mixed astigmatism quickly by the ophthalmoscopic mirror alone, an inverted or an erect image becoming alternately visible, according as the observer views the fundus through the meridian of the greatest or of the least curvature. He uses a concave mirror of thirty inches focus, and begins the examination at a distance of five feet. The meridians of maximum and minimum curvature are sometimes clearly revealed by the distortion which the image undergoes when viewed from a distance. It is best to have the accommodation paralyzed by atropia, and the surgeon should then recede to a sufficient distance to make sure of gaining an inverted image; and next direct the patient to follow, with the eye under observation, gentle movements of the forefinger in a horizontal and a vertical direction, and then notice in which direction and at what distance he gains the inverted or the erect image. To prove this, Mr. Warren Tay worked out a number of cases by the usual methods, purposely reserving his results; and then Mr. Couper, in the same cases, came very near the same quantities by the method described, in much less time.

This was quite an object, as, among such patients as attended the hospital, it was often a most difficult matter to get correct answers.

Mr. Streatfield told me that he had recently seen several cases of anæsthesia of the fifth pair of nerves, followed by entire insensibility of the cornea, but that it was rare. On the other hand, he very seldom saw cases of pterygium. This seemed to me very strange, in a great port like London, where so many sailors (a class peculiarly liable to this affection) are constantly gathered together. Inquiring of Mr. Wordsworth whether the hospital charities were not much abused by patients who were well able to pay fees, he related a curious circumstance that had recently come under his notice. A woman had been prescribed for on one of his days of attendance, who in some way excited his suspicion as to her fitness to receive gratuitous advice. The hospital porter was directed to observe her particularly; and one day, to his astonishment, he saw her enter an elegantly-appointed carriage which stood just around the corner from the hospital, and drive off, after giving her orders to the coachman upon the box with all the air of evident proprietorship.

(To be continued.)

ON THE PREVENTION OF PITTING IN VARIOLA.

To the Editor of the Philadelphia Medical Times.

DEAR SIR,—To prevent the pitting in variola has been a subject that has engaged the attention of the profession for years. Rob smallpox of this, and, in the eyes of the public at least, one of its worst features is destroyed. I wish to call attention to a preparation that I have used in several cases of confluent variola with great success. It consists in the *carbonate of lead*, the ordinary white-lead of the paint-shops,—recommended by Professor Gross, and so successfully used in the treatment of burns. My mode of using it is to add to the paint a sufficient quantity of linseed-oil to make it of the consistence of rich cream, and then, by means of a camel-hair pencil, apply it to the face. I have done this in the vesicular stage of the eruption, but perhaps it might be well to use it even earlier,—in the papular stage. A few applications form a complete covering to the face, at once excluding all possible access of air or light. It is soothing to the parts, allaying irritation, and quieting the inflammation, and in those cases where I have used it has been effectual in preventing the pitting. It commends itself from its easy mode of application, its cheapness, the readiness with which it is obtained, and from the facts that it disposes of the dark room so religiously observed by many practitioners, and that a few applications render all future interference unnecessary.

While upon the subject of smallpox, I will add that for the delirium of this disease, which at times amounts to violence, and is annoying to the friends of the patient and physician, I have found the bromide of calcium of signal benefit. I presume all of the bromides would be equally serviceable, but that of calcium, containing a larger per cent. of bromine, is more decided in its action.

I offer these suggestions in the hope that they may prove of service to the profession.

I remain

Very truly yours,

Alonzo L. Leach.

2118 Spruce Street.

COLD FOOD FOR INFANTS.

To the Editor of the Philadelphia Medical Times.

DEAR SIR,—The difficulty of rearing infants on artificial food, when neither mother's milk nor a wet-nurse can be procured, seems to justify me in publishing the following remarks:

Under the above circumstances, of course, we have nearly always to use cow's milk and the common feeding-bottle. Our best authorities direct that the milk should be given to the child at the same temperature as that of the mother's milk,—from 90° to 95° Fahrenheit,—and, where great accuracy is required, a thermometer employed. On reflection, it is obvious that these instructions can never be carried out so that the little one will take all its food at the same temperature; for during a meal the bottle becomes cold, and there

may frequently be considerable difference of temperature between the first and last milk imbibed by the infant. It is unnecessary to state that very little will upset the feeble powers of the digestive organs in the early days of infantile life; and this difference in the temperature of the food, I am disposed to believe, is one of the causes of gastric and intestinal disorder which we so often have to deal with among infants brought up by hand.

Instead of giving warm milk, I have adopted the plan of giving cold milk entirely,—ordering the babe's bottle to be kept standing in iced water in summer and in a cold place in winter. This method I have found, from practical experience, to answer remarkably well. If there is any tendency to diarrhœa, I recommend the milk to be heated to 212° F., and afterwards allowed to get quite cold before being used. In private practice, I am of opinion that bottle-fed infants generally have their food given them too warm.

It would lead me far beyond the limits of a letter to enter into details regarding the administration of cold food to infants. I might, however, add that they soon like it even better than warm food, and during the teething period the cold milk seems especially agreeable to the inflamed gums of the little sufferers.

Very respectfully yours,

J. H. T. KING, U.S.A., *Post Surgeon.*

FORT RANSOM, D.T., April 10, 1872.

OBITUARY.

DR. WILLIAM W. GERHARD. — We have recently had occasion to refer to the great loss sustained by the profession in the death of Drs. Samuel Henry Dickson and Samuel Jackson; and it now becomes our duty to notice the loss of another prominent teacher, writer, and practitioner. Dr. Gerhard, who died on the 28th of April last, was born in this city, July 23, 1809. He was of pure Moravian descent, and was the son of William Gerhard, Esq., a well-known citizen. He entered Dickinson College, Carlisle, in 1823, and graduated with distinction in 1826. He became soon afterwards a pupil of the late Dr. Parrish, with whom Dr. George B. Wood was also associated as an assistant in the instruction of medical students. He entered upon the Almshouse medical service as a resident student in 1828; and here an excellent field was offered him for the experiments on which he founded his inaugural thesis on "Endermic Applications," presented by him to the faculty of the University of Pennsylvania previous to his graduation in the spring of 1830, and during the same year published in the *North American Medical and Surgical Journal.* The important conclusions deduced by Dr. Gerhard were considered of sufficient consequence to be quoted in other contemporaneous medical journals. These investigations fully confirmed those of Lembert, to whom belongs the honor of the therapeutical application of this mode of treatment, though not perhaps the undisputed credit of the discovery.

He was, immediately after graduation, elected resident physician at the Almshouse, and, on the expiration of his clinical service here in 1830, visited Europe, where he closely devoted himself to the study of disease,—more particularly under the guidance of the distinguished Louis, at La Pitié. That he made excellent use of the abundant opportunities offered him in Paris is amply evinced, not only by his numerous contributions during his residence there to the *American Journal of the Medical Sciences* on a great variety of interesting topics, but also by the fact that, even after his return home, the same periodical for several years received few more valuable papers than those emanating from Dr. Gerhard's busy pen, summing up his medical experience in the French capital. An epidemic of cholera in 1830 found him pursuing his medical studies in that city, and gave himself and Dr. C. W. Pennock material for the preparation, in Paris, of a very interesting series of observations on that disease, which were published in the journal just referred to (vol. x., 1830, pages 319–390). They modestly state that "the American physicians who remained at Paris did not aspire to the honor of representing their profession; belonging to the youngest classes of it, they could pretend to nothing more than their own instruction, and would only be useful as the interpreters of the Parisian pathologists." The condensed account they thus gave of the epidemic was based upon cases observed in the wards and amphitheatres of such men as Andral and Louis,—at La Pitié especially, but also in the Hôtel-Dieu, and Val-de-Grace. During 1833 also appeared in the same journal contributions by Dr. Gerhard on "Fatal Cases of Smallpox and Rubeola," "Cerebral Affections of Children," and "Pneumonia of Children," all of which were founded on observations made in the Hôpital des Enfans Malades of Paris. These sketches of his experience in the Paris hospitals were complete records of cases in all their details, and were perfect pictures of actual illustrations of diseases carefully studied and intelligently appreciated.

On his return home, in 1834, he was appointed resident physician to the Pennsylvania Hospital, and while serving in this capacity he was, in 1835, elected one of the physicians of the Philadelphia Hospital (Almshouse). In both of these institutions he found time to prepare for publication a very full and valuable series of clinical reports and observations, embracing a hundred or more pages of the *American Journal,* and invading various departments of pathology, especially fevers and affections of the lungs. The most important researches made by him were those published in the same journal in 1837, "On the Typhus Fever which occurred in Philadelphia in the Spring and Summer of 1836, illustrated by Clinical Observations at the Philadelphia Hospital; showing the distinction between this form of disease and Dothinenteritis, or the Typhoid Fever with Alteration of the Follicles of the Small Intestine." These were especially valuable as establishing the differential diagnosis between typhoid, typhus, and remittent fevers. In 1845 he was appointed physician to the Pennsylvania Hospital,—a position he continued to occupy until his resignation, in 1868. In 1838 he instituted, with Drs. John B. Biddle and Meredith Clymer, the *Medical Examiner,* in which enterprise he was materially assisted by the Pathological Society,—a new organization, of which he was President, and which continued in active existence for several years. In 1836 he published a work "On the Diagnosis of Diseases of the Chest, based on a Comparison of their Physical and General Signs;" also, in 1842, "Lectures on the Diagnosis, Pathology, and Treatment of Diseases of the Chest," which originally appeared in the *Examiner* in 1840.

In 1838 he was appointed an assistant to Dr. Jackson at the University of Pennsylvania,—more particularly for the purpose of conducting clinical instruction at the Almshouse, and of relieving the latter. Here he devoted himself especially to the diagnosis and pathology of diseases of the chest. His services were so highly appreciated by his class, that in 1840 complimentary resolutions were passed by the medical students on attendance at his clinics. "In 1841 the system of dispensary clinics was adopted by the University. The first that was instituted under its auspices was conducted by Dr. Gerhard and Dr. William P. Johnston, in the building of the Medical Institute, in Locust street above Eleventh. It was there carried on until the commencement of the course of 1843, when it was transferred to the University building, under the immediate superintendence of the professors, with the assistance of those gentlemen."*

He was appointed Teacher of Clinical Medicine in the Medical Institute in 1844, with Drs. P. B. Goddard, W. P. Johnston, Joseph Carson, Caspar Morris, M. P. Hutchinson, and James B. Rogers, as his colleagues; but his failing health prevented him from delivering the lectures of the course; and during the next year the Institute ceased to exist,—the Franklin Medical College succeeding it in the occupancy of its building.

* History of the Medical Department of the University of Pennsylvania, by Joseph Carson, M.D. Philadelphia, 1869.

During his connection with the *Medical Examiner*,—which lasted from 1838 to 1844, in which latter year he visited Europe on account of ill health,—he made numerous and voluminous contributions to its columns on every variety of subject in pathology; but from this time—probably on account of his impaired physical condition and the demands of an increasing practice—his pen grew less active, and only occasional papers appeared from him.

In 1847 he was appointed Assistant Lecturer on Demonstrative Medicine in the University of Pennsylvania, which position he occupied until 1856.

Dr. Gerhard will long be remembered for his valuable aid in the advancement of his profession,—as a clinical teacher especially. As a lecturer he kept himself thoroughly up to the pathology of his day of active service, and was one of the most intelligent followers of the Louis school we have ever had. He was clear, methodical, and eminently successful before a class, on account of the extraordinary pains he took to make every detail of a case—its pathology, treatment, etc. —apparent to the mind of the student. He was simple in his mode of expression, never attempting anything like ornament or pure rhetoric. His delineations of cases were graphic pictures, complete in all their parts.

The first inroad upon his health had been made by an attack of typhoid fever, resulting from close application to the study of that disease, and continuous exposure to the poisoned atmosphere of the Almshouse. For many years past his health had been bad, requiring his gradual withdrawal from the labors of practice. In addition to the protracted cerebral affection which was the immediate cause of his death, he a year or two since suffered from an attack of pneumonia,—following after a serious fracture of the fibula,—from which he narrowly escaped a fatal result.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, APRIL 25, 1872.

VICE-PRESIDENT Dr. J. H. BRINTON in the chair.

DR. F. H. GROSS presented a specimen of *cancer of the head of the pancreas*, and read the following history: "My acquaintance with the deceased, J. F., a grocer, born in Germany, and aged 48 years, dates from August 30, 1870 (twenty months), when he made application for life-insurance, and was presented to me for medical examination. From my notes, taken at the time, I find that he was then 46 years of age, weighed 150 pounds, was about five feet seven and a half inches in height; measuring around the chest on forced expiration thirty-five inches, and on forced inspiration thirty-eight inches. When standing, his pulse was eighty-four per minute, and when sitting, seventy-nine. The physical exploration of the person of the applicant, and the verbal answers to questions usual at such times, elicited nothing to make the risk an objectionable one to the insurance company, and it was consequently accepted.

"I did not see him again until in the early part of the present year, about sixteen months after the examination above alluded to, when he informed me that he had been for a short time under a physician's treatment for dyspepsia. To a cursory view he presented at that time no particular signs of disease. On the 20th of February following he called for the first time at my office to consult me in regard to his disease.

"He had lost flesh, complained of want of appetite, constipation, occasional nausea, some pain in the epigastrium, and also of occasional distressing eructations and vomiting after meals. He continued to call at my office about once a week until the end of March, getting only temporary relief from the more distressing symptoms. He soon became so weak and emaciated as to be unable to leave his room. Hiccough and vomiting continued to increase in frequency and severity,—the stomach rejecting almost everything that could be offered. He frequently threw off large quantities of more or less clear watery fluid. There never was any vomiting of blood, nor of anything that had the appearance of purulent matter. The fluids ejected by the stomach were not sour, and only after long-continued emesis were they said by the patient to be bitter. When emaciation had become extreme, a hard substance could be obscurely felt to the right of the epigastrium. Suspicions of the existence of cancerous disease were expressed to the friends of the patient. After a consultation with Dr. Tiedemann, it was firmly believed that such was the character of the disease. The pancreas was mentioned as the probable seat of the trouble, but no positive diagnosis as to locality can be said to have been made. The patient was now rapidly sinking from distress and exhaustion; vomiting and singultus were almost continuous. The bowels, which had previously been obstinately constipated, became quite loose, and the discharges involuntary. In this condition he gradually sank, and died on the 11th of April.

"In presenting the specimen,—which consists of the head of the pancreas and portions of the stomach and duodenum attached, and obtained twenty-four hours after death,—I regret that I am not able to exhibit the entire stomach and pancreas. The autopsy was strongly objected to, and after much persuasion on my part only a very limited examination was allowed; and this is all I was able to bring away.

"On opening the abdominal cavity, the hardened mass attached firmly to the pyloric portion of the stomach and to the duodenum was at once apparent. The stomach, which was not of unusual size, was opened in situ. It contained a small quantity of dark brownish-green fluid. The pyloric orifice was so contracted, and the tissues around it so hardened, that it required some force to engage the end of the little finger in it. The indurated mass, as seen in the specimen, extends nearly or quite around this portion of the stomach.

"A cursory examination by the microscope leaves no doubt as to the character of the disease.

"The liver, so far as could be ascertained under the circumstances, was in a healthy condition."

Dr. F. H. GROSS also presented a specimen of *cystic disease of the testis, removed from an infant five and a half months old.*

"The case was brought to the dispensary of St. Mary's Hospital about a month ago. On examination, it was found that the left testicle was enlarged to nearly the size of a pullet's egg; hard, yet elastic to the touch, and would bear considerable pressure without giving pain. The mother said that when the child was about six weeks of age she first noticed that one testicle was slightly larger than the other, and considerably harder, describing it as 'feeling like a marble,' and that it continued steadily to grow until it reached the size above mentioned. The lymphatic glands of the groin were not involved, nor was there any history of syphilis or tubercle. On introducing the exploring-needle, a small drop of clear liquid oozed from the puncture. Not feeling entirely satisfied as to the character of the disease, Dr. Keen was requested to examine the case, and was very decided in pronouncing it cystic sarcoma.

"Five days ago the child was etherized, and, with the assistance of Dr. Keen and the residents at the hospital, I removed the testicle in the usual way; but, to control hemorrhage from the spermatic artery, acupressure was employed above the surgical wound, by passing a pin underneath the cord, and looping a thin wire moderately tightly over its two ends. When the cord was divided, there was no bleeding whatever, nor did it retract beyond the pin. Water-dressing was applied to the wound. On returning to my office in the evening, over six hours after the operation, I found that a message had been left about two hours previously from Dr. Nelson, the resident at the hospital, who had charge of the case, desiring me to come immediately, as the child was bleeding. On my arrival at the hospital, I found that hemorrhage had commenced about four hours after the operation, but had ceased without serious result to the patient. The loss of blood, however, was considerable for so young a subject, having soaked through the diaper and clothing of the child on to the dress of the mother, who was holding the child in her lap before the bleeding was discovered. To guard against a recurrence, an additional loop was more tightly applied over the ends of the pin. The

hemorrhage was unexpected, but had it been promptly detected it could have been easily controlled in this way.

"The specimen, which has been divided through the middle, is seen to contain innumerable cysts, varying in size from that of a pin's head to that of a large pea, or larger, most of them filled with a clear, jelly-like fluid, with here and there one containing a brownish substance.

"I intended to call special attention to several hard, bony points that were felt when the specimen was first cut through, but after several days' maceration I do not now feel them."

Dr. T. H. BACHE presented for Dr. R. E. BROWN, of Mt. Holly, N. J., a specimen of *osteo-sarcoma of the head of the left tibia*, removed from

"I. M. S., a male, aged 67 years, plethoric, and very heavy, habits strictly temperate, always observing the utmost care in his mode of living, and general health very good up to the time of his last illness (one month). About ten years ago, as he was proceeding to his place of business, while in the act of getting off a street-car, he slipped or made a misstep in such a manner as to strain or cause a twist of the *left* knee-joint, which at first caused some pain and uneasiness, but not sufficient to prevent him from walking and attending to his business, which he did for several days after; then, however, the joint becoming gradually stiffened, followed by slight redness, swelling, and pain, prevented him from attending to any further business. The swelling very gradually increased, so that at about six weeks from the date of the supposed cause of the injury it had grown to the size of a small hen's-egg, and was situated directly over the joint, near the inner condyle. The pain at times would be annoying, but never so severe as to require large doses of anodyne for its relief; the redness gradually disappeared, and the limb assumed its natural color. The tumor which was now formed, and of a non-indurated character, increased very slowly in size up to the time of his death, when it measured thirty-two inches in circumference. In the latter part of the patient's life the tumor became hard and nodulated in different portions, but his health remained remarkably good up to within about six weeks of his death, when he was attacked with loss of muscular power, principally on the right side, which left him in a very feeble condition; and shortly after erysipelas commenced in the hands, face, and right thigh, when he rapidly died from prostration, refusing both medicines and food during the last week of his illness. He had had repeated attacks of erysipelas during the last twenty-five years, and both legs had chronic ulcers. To my knowledge there has never been any similar disease occurring in any member of his family."'

Dr. GEORGE STRAWBRIDGE presented a specimen of an *eyeball diseased by attacks of irido-cyclitis, due to the lodgment of an iron splinter in its interior:*

"E. B., æt. 48, was wounded in the eye ten years since, by a splinter of iron striking the outer half of the cornea, passing through the iris and crystalline lens, and lodging in the sclerotic coat about one line distant from the entrance of the optic nerve. At the time of the accident, and for several weeks afterwards, considerable inflammatory action was present, but it finally entirely subsided, leaving the vision much impaired. Two years afterwards another attack came on, lasting three weeks, and then subsiding. After this there was an interval of eight years, during which time the patient suffered no inconvenience from the injured eye, although vision was almost entirely lost.

"Six weeks ago the third attack appeared, and at the time of my first visit I found a severe irido-cyclitis present, with a dense exudation-mass in the pupil, closely binding the iris to the crystalline-lens surface, and at the outer portion of the iris was to be seen a small slit made by the passage of the foreign body ten years before. Tension of eyeball slightly lessened. The eyeball was enucleated to preserve the sound eye, which already showed signs of sympathetic inflammation. On examination of the eyeball, the lens was found opaque, the vitreous humor fluid; marked changes were present in the iris and ciliary bodies, and finally the steel splinter was discovered impacted in the sclerotic coat, about one line inward from the entrance of the optic nerve. Directly around it the retina, choroid, and sclerotic were thickened, and by a microscopic examination probably other marked changes will be found. The long interval of eight years between the attacks of irido-cyclitis is an interesting feature of the case."

BIOLOGICAL AND MICROSCOPICAL SECTION OF THE ACADEMY OF NATURAL SCIENCES.

MAY 6, 1872.

DIRECTOR W. S. W. RUSCHENBERGER, M.D., in the chair.

PRESENT, Messrs. J. Zentmayer, J. G. Hunt, I. Norris, McQuillen, Shaeffer, Nancrede, Vaux, Parker, F. W. Lewis, Buckingham, J. Truman, W. H. Trueman, Shoemaker, Warner, and Richardson.

Dr. RUSCHENBERGER, U.S.N., donated to the museum of the Section a specimen of hair from a chief in the Navigator Islands. It was cut by Dr. Ruschenberger, whilst on a cruise in the Pacific during the year 1856, from the head of the savage.

Mr. JOSEPH ZENTMAYER exhibited his newly-invented Erecting Prism, and, in his preliminary remarks upon the subject of apparatus hitherto employed for erecting the microscopic or telescopic image, observed that the great—almost insuperable—objection to these instruments, when composed of lenses, has been that they produce double images, or a distorted single image, and cause a lamentable loss of light. Some years since, Prof. Henry Morton called Mr. Zentmayer's attention to a statement of Sir David Brewster's, to the effect that a right-angled prism interposed between the lenses of a microscope or telescope acted as an erector in one direction, *i.e.* would rectify the image so that the right side corresponded to the right side of the object, or (if rotated 90°) so that the top of the image corresponded to the top of the object, although of course it failed to accomplish both these desiderata at the same time. On investigation, however, he (the speaker) had found that if a right-angled prism was employed, many of the rays of light were so insufficiently refracted as to be lost, and further research enabled him to determine that the proper angle for a prism of ground glass was only 27° 19′, in which case there was no "cut-off," the whole depth of the prism being, under such circumstances, available.

Mr. Zentmayer stated that although most of the telescopes used for terrestrial objects were fitted with erecting eye-pieces composed of an extra pair of lenses, it was so rare for opticians to succeed in adjusting these perfectly enough to avoid serious distortion of the image as well as great losses of light, and likewise in flatness of field and accuracy of correction, that the best terrestrial telescopes, such as those used in our own Coast Survey and abroad, were fitted with astronomical or non-erecting eye-pieces, since the inversion of the image was found to be the lesser evil.

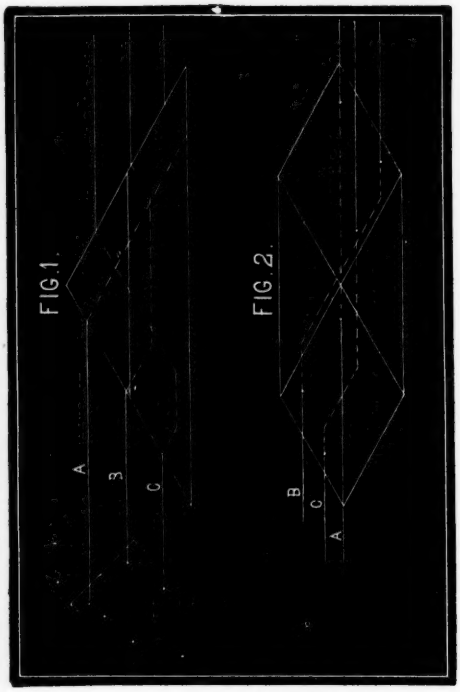
But, however unsatisfactory is the working of lenticular erectors in the telescope, their performance in the microscope is much more objectionable, and accurate adjustment correspondingly more difficult, so that their use is practically confined to dissecting microscopes of low power. In order to elude their disadvantages, Amici, many years since, contrived an erector composed of two right-angled prisms, as suggested by Brewster; but the arrangement has not proved efficient in practice. The erecting prism of Nachet is so adjusted that rays proceeding vertically from the object under examination are reflected along a tube at right angles to the body of the microscope, and reach the eye of the observer in a horizontal direction. It is inconvenient for use in dissection, because the hands, when at work, are not in the direction of the axis of the eye, and also because the microscopist must keep his eye so closely applied to the eye-glass of the eye-piece.

Mr. Zentmayer's new prism, which he exhibited in successful and eminently satisfactory operation at the meeting, has the great advantage over Amici's combination that singly it erects both in the vertical and lateral directions, without material injury to definition or serious loss of light. When in use, it is placed in the body of the microscope, immediately above the objective, and is stated to be equally applicable to each tube of the binocular instrument.

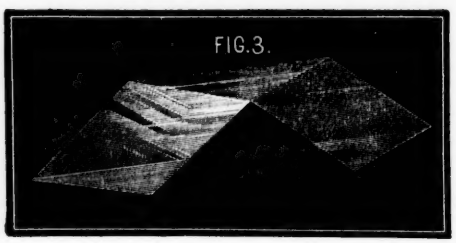
Fig. 1 shows a front and also a profile view of the prism, the projection of the former being a square, and that of the latter an isosceles triangle. The angles at the extremities of the base of this triangle are, as already mentioned, 27° 19′ for crown glass of a refracting index of 1.53.

Fig. 2 is a bird's-eye view of the prism, in which the courses

of the same identical rays marked A, B, and C, respectively, are represented by dotted lines.



Careful examination of these figures will show how rays such as B, entering the right side of the prism's inferior surface (as adjusted in the microscope-tube), are reflected and refracted so as to emerge upon the left side of its superior



surface; and in like manner that rays such as A, which enter near its anterior angle, are so bent as to make their exit in the neighborhood of the upper and posterior angle, thus accomplishing both the vertical and horizontal erection of the image before it reaches the observer's eye.

Fig. 3 is a drawing of the prism in perspective.

Dr. J. G. HUNT exhibited a very convenient dissecting-microscope, whose value he thought had not yet been duly appreciated in Philadelphia, although it would now probably be superseded, in a measure, by the ordinary microscope as fitted with the erecting prism just described by Mr. Zentmayer. This form of the dissecting instrument, made by Messrs. R. & J. Beck, of London, was arranged for a binocular attachment, which could be readily adapted at a moderate expense.

ETIOLOGY OF ADDISON'S DISEASE.—Professor Tigri reports (*Gaz. Méd. de Bahia;* from *L'Union Médicale*, May 21, 1872) a case of this disease in which, at the autopsy of the patient, the sympathetic was found to be diseased. The ganglia were considerably hypertrophied, especially the solar ganglion. The left cervical ganglion was larger than the right, and its neurilemma was hypertrophied.

REVIEWS AND BOOK NOTICES.

HISTORY OF MEDICINE FROM THE EARLIEST AGES TO THE COMMENCEMENT OF THE NINETEENTH CENTURY. By ROBLEY DUNGLISON, M.D., LL.D., late Professor of the Institutes of Medicine, etc. Edited by RICHARD J. DUNGLISON, M.D. Philadelphia, Lindsay & Blakiston, 1872. Pp. 287.

The most interesting feature associated with the publication of this volume is probably the insight it gives into an earlier period of its distinguished author's life, hitherto comparatively unknown to the great mass of the profession. We recall him as he was in his mature years,—the eloquent lecturer, the erudite author, the learned philologist, and the accomplished gentleman; but *these* were the characteristics of a period of his busy life within the memory of us all. The lectures on the history of medicine on which this volume is founded were delivered when he was a young man, scarcely more than thirty years of age, to the classes of medical students in attendance at the University of Virginia, and we accept them, therefore, in their published form, not only as a memento of the industry and research so early displayed by their author, but also as a valuable contribution to medical literature on a subject interesting alike to the student and to every member of the profession.

One of the most marked traits of the author was undoubtedly his great power of condensation. Diffuseness he avoided under all circumstances, in his lectures, his writings, or his conversation. He seemed to get at the pith of an argument or a subject without taking all the intermediate steps; and when he had informed himself of a fact he communicated it to others without any unnecessary verbiage or circumlocution. The present history is no exception to this rule of his life. He has culled from the voluminous works of other days all the important facts connected with the progress of medicine, and, in a condensed form, given us the "history of important discoveries and improvements in medicine, of medical theories, of medical writers and practitioners, authors, founders of special systems and of celebrated schools of medical learning." Before, however, entering more particularly into the merits of the book now before us, it may not be inappropriate to refer to the remarkable career of its author, direct interest in which is now again awakened by this literary legacy.

The name of Professor Dunglison is thoroughly identified with the progress of medical literature in this country. It is true that before his arrival in America, in 1825, he had already published his "Commentaries on the Diseases of the Stomach and Bowels of Children," translations of "Larrey's Memoir on the Moxa" and "Magendie's Formulary of New Remedies," and an edition of "Hooper's Surgical Vade Mecum," in addition to numerous articles published in scientific, literary, and medical magazines and journals; but it was here that the solid foundation of an enduring reputation was first laid. At the University of Virginia, during nearly nine years of his residence there, he found time, in addition to his arduous labors as a teacher of medicine in a number of multiform branches,—as anatomy, surgery, the history of the progress and theories of medicine, physiology, materia medica, and pharmacy,—to edit, with one of his colleagues, a weekly magazine, entitled the "Virginia Literary Museum," to which he contributed a vast number of miscellaneous and non-medical articles on every variety of subject, especially of a philological character, embracing, also, a series of legends and stories of the English lakes,—in which beautifully romantic district he was born,—and also to publish, with Professor Long, a volume on Grecian and Roman geography, as well as to produce two far more important works,—his "Human Physiology" and "Medical Lexicon,"—each of which passed through a large number of editions; the latter being, even at this day, one of the best medical dictionaries in the English language, if not, indeed, the very best.

Such is a brief sketch of that portion of the literary career of Dr. Dunglison which was contemporaneous with the delivery of these historical lectures, the manuscript of which, after the lapse of many years, has now been arranged and published by his talented and accomplished son. We may naturally infer that this was the most arduous period of his life; for his authorship must have been to a certain extent ex-

perimental, with no reliable basis for prognostication of assured success in the future, and as a lecturer and practitioner, he was, of course, then laying only the groundwork of his reputation.

Lectures on the history of medicine were an unusual addition to a course of medical instruction, and in these days of devotion to what is called the more practical branches would by many be considered as only an embellishment; and yet they introduce the student to a knowledge of a department of medical literature without which his education is incomplete and unfinished. Assuredly no practitioner is thoroughly armed at all points who neglects to trace the paths through which others have travelled to reach the advanced position from which he is about to take his departure. Scanty provision is, however, made in the regular educational systems of the schools for the instruction of the student in the literature of his profession, while the busy practitioner soon almost forgets that it has an antecedent history, which, although crowded with numerous delusions and superstitions and follies, is nevertheless interesting as a study of a gradual or rapid transition from obscurity and mere conjecture to sounder reasoning and more accurate methods of observation and treatment.

This volume of historical lectures does not profess to be an exhaustive treatise on the subject, being rather, as already stated, a condensed narrative than an effort to create an elaborate text-book. It is not known whether its author ever contemplated submitting it to the public eye at all. It is probable that the manuscript was put aside and forgotten, in consequence of the great demand made upon his time for more comprehensive, systematic work. Be this, however, as it may, we think the editor has done wisely to issue this posthumous work, and to change its didactic character so as to present the facts in regular order of historical sequence. Medicine is here traced from its reputed origin in the distant mythological ages down through all the stages of its development among the primitive nations, and through periods of barbarism and semi-civilization and of enlightened knowledge, forming a continuous record of the changes which physic, as a science and an art, underwent as men grew more familiar with the laws of the human economy and the means of alleviating its morbid conditions. The editor states in his preface that some portions of these lectures are translated or condensed from the celebrated work of Sprengel, published three-quarters of a century since. In this way, the author has succeeded in incorporating a great deal of interesting material, based upon the authority of a universally recognized master of his subject, where absolute originality was not indispensable or essential.

The especial advantage which Dr. Dunglison's concise history offers is that facts similar to those which have been elaborated in the ponderous works of foreign authors especially, accessible only in a few public libraries, or buried on the book-shelves of private individuals, are here presented in the compass of about three hundred pages, in a popular, readable, and condensed form, agreeably offering to the profession an opportunity, much needed, of easily acquiring an ample knowledge of the various progressive steps in the development of medicine and of the men who have been instrumental in its culture.

The variety of topics discussed in this volume may be best exhibited by a glance at its contents. Beginning with the medicine of the ancient Egyptians, when mythological obscurity surrounded the medical attributes of Isis and Osiris and other deities, it traces the history of the numerous incidents and revolutions in the progress of medicine, frequently exhibiting the fallacies of sects and systems, through periods when it was still under the trammels of superstition, and through centuries of darkness and ignorance and of transition to the greater enlightenment of later years. It is a full outline history, not of untenable and evanescent theories, which, however important, constitute but a small feature of the narrative, but of all the personages and events whose association with it is essential to its completeness. The editor, therefore, is correct in stating that "the present work will supply the want, long felt by the profession, of a condensed history of the progress of medicine, presenting all the main facts in systematic order, avoiding, as much as possible, prolixity or unnecessary discussion of the merits of men and theories." Useful and valuable lessons may be gleaned from such a history, and none of more practical service to both student and practitioner than the avoidance of a blind adherence to the dicta of any master, however intelligent or profoundly versed he may be in medical science. Both must observe and reflect for themselves; and in such a study as Dr. Dunglison here offers of the vicissitudes which medicine has undergone in the round of ages, they will find a charming field of research well worthy of their investigation. They will learn, as the author himself observes, that many of the superstitions connected with the earlier history of medicine prevail now as they did formerly, but that the facility for the reception of the marvellous, and the imperfect state of experimental science at that time, occasioned their prevalence in the higher intellects, whilst at the present day they are mainly restricted to the vulgar and the illiterate, and that ages of obscurity, bootless conjecture, and dreamy enthusiasm preceded those of sound sense and rational observation. Such a study will doubtless also lead to a more intelligent and appreciative view of the condition of medicine in more recent days. The author has truly remarked that "when we take a retrospective glance at the condition of medicine in former times, and reflect upon the amount of ignorance, credulity, and superstition that prevailed, we cannot fail to be struck with the immense improvement that has taken place in comparatively modern periods, and must be encouraged in the hope that as the physical and moral sciences pursue their onward progress, and as the means of observation and experiment are augmented and facilitated, our own noble science may attain a pitch of perfection of which, at the present time, we can form no adequate conception,—shedding light where all is now obscurity, and tending to dispel doubt and difficulty wherever existent."

In this notice, which we have made as full as the space allotted us would admit, we have endeavored to give a fair account of the book. We have read it with much interest, and can recommend it to all who wish to get a knowledge of the history of our profession, as being the best outline history of medicine in our language. It is beautifully printed upon very good paper, and its value is greatly enhanced by a very copious index.

BOOKS AND PAMPHLETS RECEIVED.

Lehrbuch der Geburtshülfe, mit Einschluss der Pathologie der Schwangerschaft und des Wochenbettes. Von Dr. Karl Schroeder, Oö. Prof. der Geburtshülfe und Director der Entbindungsanstalt an der Universität Erlangen. Mit 26 in den Text gedruckten Holzschnitten. Dritte, neu durchgearbeitete Auflage. 8vo, pp. xiv., 698. Bonn, Verlag von Max Cohen u. Sohn, 1872.

GLEANINGS FROM OUR EXCHANGES.

Action and Use of Carbolic Acid.—Salkowski, considering it highly probable (*The British Medical Journal*, May 25; from *Pflüger's Archives*, 1872, p. 355) that variola depended upon a *contagium vivum*, administered carbolic acid in this disease during the epidemic which raged in Königsberg from September, 1870, to April, 1871, expecting to find benefit from its use. Unfortunately, his sanguine hopes were doomed to disappointment; and, after an extensive trial, his unprejudiced verdict is that the acid exerted no perceptible action on the disease, nor did it shorten its course. In other diseases of a non-infectious nature, however, in which he tried it, decided benefit resulted from its use: these were gangrene of the lung, skin-diseases, and derangements of the stomach. In one case of prurigo the effect was marvellous, though unfortunately only temporary. In vomiting he found it of great service. When given for some time, as in cases of gangrene of the lungs, it sometimes deranged the digestion considerably, causing pain in the stomach, loss of appetite, sickness, etc.; but these effects depended very much on the purity of the preparation employed, and impure acids, having an unpleasant smell, produced them very much more quickly. The post-mortem appearances which he found in the stomachs of rabbits to which he had given the acid showed very clearly tha:

it should be very freely diluted, and only given in a concentrated form in very exceptional cases.

The only cases in which Salkowski recommends carbolic acid to be given in a concentrated form in pill are those cases of gangrene of the lung in which the patients complain that it causes coughing when given in any other form.

PRESYSTOLIC CARDIAC MURMUR.—Dr. A. Whyte Barclay, in the *Lancet* of March 2, 16, and 23, has an interesting paper upon this subject, in which he takes exception to the interpretations first placed upon this sound by Dr. Gairdner, and accepted as correct by Dr. Peacock, Dr. Wilks, Dr. Hilton Fagge, and indeed generally. Instead of considering this murmur a presystolic or auricular systolic one,—that is, due to the passage of blood through a narrowed auriculo-ventricular orifice, partly through the agency of a systole of the auricle,—Dr. Barclay prefers to consider it a *systolic regurgitant* murmur; for which he cites reasons, some of which have undoubted weight.

Of the first importance in regard to the production of murmur is the fact, too often overlooked, that the greater the force the more easily is vibration excited; and this, whether the murmur be obstructive or regurgitant. This furnishes explanation of the fact, familiar to all auscultators, that an obstructive murmur at the base and a regurgitant at the apex of the heart are those most frequently heard; they are both systolic,—both produced by the blood being impelled against the valves by the full force of the ventricular contraction. A regurgitant murmur at the base and an obstructive at the apex must each indicate a greater degree of alteration in the valves, as they are produced by forces relatively weaker. Dr. Barclay can scarcely conceive of a mitral valve so altered as to produce audible vibrations in the onward current while yet remaining capable of closing so completely as to be unattended by regurgitation. He says, moreover, "if the roughness be such as to produce vibration when the blood is propelled only by the comparatively powerless action of the auricle, how can it resist the impact of that fluid when driven against it with the whole force of the ventricle?"

With the absence of valves at the entrance of the pulmonary veins, the auricle can really exert very little power in driving the blood forwards; and in contracting it must empty itself backwards if any obstacle to the onward flow exist. Possibly hypertrophy may thus be produced, but it must always be inconsiderable.

Dr. Barclay holds it to be a mistake to believe that the contraction or systole *commences* with the first sound. The stroke and the first sound cannot take place till the whole muscle is thrown into a state of tension; and the systole *begins* when the first fibre assumes this state during the longer interval, *persists* so long as any portion remains contracted, and only ceases when the blood is expelled from the cavity and relaxation again takes the place of contraction,—in other words, when the impulse is felt against the chest-wall; but the shortening of the fibres goes on during a part of the shorter interval, and ends before the second sound can be produced. The whole of this period is embraced in the term "ventricular systole,"—the first sound occurring somewhere in the middle of the contraction,—at the point, in fact, where tension is complete and shortening ends. If this be conceded, no other interpretation than that presystolic murmur is regurgitant is admissible.

The essential character of the murmur is that it runs up to and terminates in the first sound, and consequently it must be produced while the tension of the ventricle exists. The necessary result of such tension is that the blood is forced against the apertures; and in the ordinary course of events the mitral aperture would close; but the contracted, hardened valve is not capable of ready adaptation, and therefore offers no efficient obstacle; and the contraction of the auricle does not prevent the blood from being drawn through it, as it meets with no resistance at the inlet of the veins. The unavoidable result is regurgitation, with its necessarily attendant murmur rendered all the more harsh by the roughness and hardness of the opening.

Dr. Barclay does not deny the occasional existence of an obstructive murmur at the mitral orifice, but on the other hand refers to a case, reported by Dr. Peacock, in which a loud systolic murmur at the apex is immediately preceded by another fainter murmur, so as to constitute in that situation a double murmur, as an example of the somewhat rare condition of obstructive and regurgitant mitral murmur occurring in the same individual.

HYDRARTHROSIS TREATED BY INJECTIONS OF TINCTURE OF IODINE.—Dr. Keppler reports, in the *Wiener Medizinische Presse* for April 28, a case of hydrarthrosis of the knee-joint treated by Professor Dittel, of Vienna, by injections containing iodine. The patient was a lad eighteen years of age, who, five and a half years before coming under observation, had received a severe contusion of the knee, which was followed by an accumulation of the synovial fluid of the joint. To relieve this condition, Professor Dittel injected into the joint two scruples of a mixture composed of equal parts of water and of tincture of iodine, which was drawn off ten minutes afterwards. Very few general symptoms followed the operation, although it gave rise to synovitis. Seventeen days later the injection was repeated,—this time with pure tincture of iodine, which was allowed to remain. Synovitis was again excited by it, but was this time followed by a decided diminution of the swelling. The operation was again repeated a month later. The patient was discharged three and a half months after the institution of the treatment, completely cured.

EPIDEMIC ANASARCA.—M. le Dr. Limousin, Physician to the Hôpital de Bergerac, describes, in the May number of the *Archives Générales de Médecine*, an acute disease, characterized by anasarca, by dyspnœa, sometimes so extreme as to threaten death by asphyxia, by an albuminous condition of the urine, and by its occurrence in epidemics. Within three months—from March to June, 1857—he saw as many as thirty cases of this disease,—at a time, too, when no eruptive fever was prevailing. He has never before or since seen a similar epidemic. The patients were all seized in the midst of apparent health, generally without appreciable cause, with general œdema. Dyspnœa and albuminuria occurred later, and were evidently dependent to a great extent upon œdema of the lungs and kidneys. Dr. Limousin believes the cause of this disease to be something which produces a profound impression upon the circulation, similar in its nature to that which results from an obstacle to the course of blood in the heart or in a large vein. The symptoms generally disappeared readily under treatment,—hydragogue purgatives, especially jalap, being found most useful.

TREATMENT OF TETANUS AMONG THE CHINESE.—The patient smokes (*The Journal of Psychological Medicine* for April, 1872) in a pipe a mixture of from twenty to twenty-five centigrammes of crude opium and tea- or rose-leaves, which are worked up with a small quantity of molasses. When smoking, he must inspire as deeply as possible, and continue this operation until the narcotic influence is noticed. This continues, as a rule, three or four hours. The smoking is repeated as soon as the tetanic symptoms reappear. In the mean time, as much nourishment as possible is given. In using opium thus, it must be remembered that its narcotic effect is somewhat neutralized by tobacco.

THORACENTESIS.—In a recent paper contained in the *Bulletin Générale de Thérapeutique*, vol. lxxx. (*The Practitioner* for May, 1872), M. C. Paul gives eight cases of acute pleurisy, which, as soon as the diagnosis was ascertained, he at once treated by puncture of the chest. The results were extremely favorable,—the duration of the disease being materially shortened, all the patients being restored to health in the course of three weeks. M. Paul thinks the mode of treatment especially advantageous for private cases, and gives as a prognostic sign that when the effusion coagulates immediately after being withdrawn there is little or no tendency in it to re-collect.

REMOVAL OF THE KIDNEY.—Mr. Durham has recently removed the right kidney of a woman at Guy's Hospital. The patient was forty-three years of age, and is the same in whom, more than two years ago, Mr. Durham exposed the kidney with the expectation of finding a calculus in or about its pelvis. No calculus was found on that occasion, and, the kidney appearing to be healthy, the wound was closed. The patient recovered from the effects of the operation, but the severe pain, hæmaturia, and other symptoms for which it was under-

taken, continuing, the removal of the kidney was determined upon. Two days after the operation the patient was reported to be doing well; but we learn that she has since died.

SHOULD WE TREPHINE FOR APHASIA?—Lohmeyer, in the course of an article in *Langenbeck's Archives*, xiii. (*Central-blatt*, March 30, 1872), takes the ground that in cases in which abscesses, hemorrhages, or foreign bodies within the cranium have been diagnosticated, the existence of aphasia would justify the operation of trepanning being performed, since it enables us to say with certainty what part of the brain is involved. In fifty out of fifty-three cases of aphasia that he has collected, the seat of the disease was on the left side of the brain, in the immediate neighborhood of the fossa of Sylvius.

DR. REUBEN A. VANCE calls attention, in *The Boston Medical and Surgical Journal* for May 9, 1872, to "The Effects of Menstrual Disorders upon the Vascularity and Nutrition of the Intra-Ocular Structures." In the majority of cases, he says, in which the performance of the menstrual function is attended by great bodily suffering or mental depression, the ophthalmoscope will reveal an increase of blood in the intra-ocular structures. In a small proportion of cases, however, the ophthalmoscopic appearances are directly the reverse.

THE ANTIDOTE FOR PHOSPHORUS.—Prof. Bamberger (*Wiener Medizinische Presse*, January 28, 1872), as the result of a series of experiments, has found that oil of turpentine is not an antidote for phosphorus, and believes that in the present state of science the treatment of poisoning by phosphorus by the salts of copper is not only the most rational, but has hitherto been the most successful.

THE URINE IN POISONING BY PHOSPHORUS.—Dr. J. Ossikovszky reports a case (*Wiener Medizinische Presse*, March 31, 1872) of poisoning by phosphorus in which large quantities of leucin and tyrosin were found in the urine, showing that the condition of the liver produced by this poison is analogous to that which occurs in acute yellow atrophy of the organ.

EFFECTS OF OPIUM ON SNAKE-POISON.—A correspondent in *The Indian Medical Gazette* for March 1, 1872, says, "It is well known among Bengalis that opium-eaters can resist, to a certain extent, snake-poison."

MISCELLANY.

AN AMERICAN SURGEON DECORATED.—His Majesty the King of Sweden and Norway has bestowed, through the legation at Washington, upon Dr. Lewis A. Sayre, of New York, the knighthood of the Royal Order of the Wasa, "in acknowledgment of the services rendered by you to the study of medical science in Sweden."

This is accompanied by the letters patent and a most beautiful jewelled decoration, with Greek cross and crown, together with letters, couched in terms of friendship and admiration, from the King and the Royal Physician.

INTERNATIONAL OPHTHALMOLOGICAL CONGRESS.—The Executive Committee of the International Ophthalmological Congress in 1872 notify that it will be held on August 1, 2, and 3 at the Royal College of Physicians, Pall Mall, London. Gentlemen intending to read papers are requested to send the titles of them as soon as possible to Mr. Soelberg Wells.

THE PLEASURES OF SELLING POISONS.—The Chinese are said to have some very severe regulations as to the sale of poisons. The sale of arsenic is strictly prohibited, without evidence and witnesses as to the propriety of the sale. According to Dr. Porter Smith, both the seller and the buyer are decapitated if fatal results ensue; otherwise they are strangled. If the druggist ignorantly or carelessly sell the poison, he receives eighty blows.

SCHOOL HYGIENE.—In a report on Public Health in the *Dublin Journal of Medical Science* for May (*The British Medical Journal*, May 18, 1872), Dr. Cameron refers to a valuable treatise by Virchow on the diseases incident to schools. Virchow quotes several eminent authorities, among others Guillaume, who found, among seven hundred and thirty-one scholars whom he examined, no fewer than two hundred and eighteen with distortion. The great majority of cases of scoliosis were among girls. In seventy-two cases noted by Knorr, of Munich, there were sixty females. As girls spend less time at school than boys, and fewer girls attend at schools, it is urged that scoliosis is not most frequently induced by bad posture while studying. To this objection it may be answered that boys during the hours of play counteract, by vigorous exercises involving the play of nearly all the muscles of the body, the evil influence of the school-room postures. On the other hand, girls, as a rule, do not practise any kind of gymnastics. Virchow attributes a large proportion of the pulmonary consumption of childhood to overcrowding in school-rooms, to sudden changes of temperature in passing from hot school-rooms into the cold outer air, to the dust of the school-room, and, lastly, to impaired respiratory movements induced by prolonged sitting.

THE PARIS FACULTY.—M. Béclard has been appointed Professor of Physiology, *vice* M. Longet, deceased; and M. Verneuil, Professor of Surgical Pathology, has been transferred to the Professorship of Clinical Surgery made vacant by the death of M. Laugier.

A DEMONSTRATION against M. Dolbeau, Professor of Surgical Pathology in the Paris School, took place on the 20th of March. As many as two thousand students are said to have crowded into the amphitheatre at L'Ecole de Médecine, and to have taken part in the disturbance, which lasted for an hour. M. Wurtz, the Dean of the Faculty of Medicine, although very popular with the students, was powerless to quell the riot. The demonstration was renewed at the next lecture, and as a consequence the lectures and examinations have been suspended. Different stories are told as to the cause of M. Dolbeau's unpopularity,—who is said by a correspondent of the *Medical Times and Gazette*, March 30, to be the ablest surgeon in Paris. He is accused of having denounced two communists who were under his care at the Hôpital Beaujoin, and this is given as one explanation of the affair. The truth is, however, that M. Dolbeau is very unpopular with the students, as he is unnecessarily severe at the examinations and in his hospital discipline. He is said, moreover, not to be very much liked by his confrères, of whom, when called in consultation by them, he is said to speak disparagingly—and in their presence, too—to their patients.

METEOROLOGICAL.—The mean temperature of the month of May was 68.63°, which is nearly six degrees higher than the average of mean temperatures since 1790. But it was by no means the warmest May on record, the highest mean temperature for the month having been 71° in 1802, and again in 1826. The lowest mean temperature recorded for May was 51.75°, in 1848. The highest temperature noted during the month was 91°, on the 10th; the lowest was 44°, on the 5th.

The quantity of rain which fell during the month was 2.80 inches, of which nearly an inch fell on the 30th. The total

for the year thus far is only 11.2 inches, while during the first five months of 1871 the rain-fall measured 16.68 inches. The mean rain-fall for May for the past thirty-five years has been 4.48 inches. The quantity which fell in May, 1871, was 3.38 inches.

THE SUBJECTS FOR THE PRIZE ESSAYS OF THE ASSOCIATION OF AMERICAN MEDICAL EDITORS. — The committee appointed on a proper subject for prize essays recommended the following for the prize to be awarded in May, 1873:

"The Pathology and Treatment of Diseases of the Ovaries."

And for the prize to be awarded in May, 1874, the following:

"At what stages of Pulmonary Tuberculosis is a change of climate desirable? what are the principles which should govern us in choosing the kind of change to be made? and the best localities in North America to send patients of this class."

The report of the committee was accepted, and the recommendation adopted.

The prize is open for competition to all medical editors belonging to the Association.

The following gentlemen were elected officers for the ensuing year: President, Dr. Theophilus Parvin, of Indianapolis; Vice-President, Dr. A. G. Stone, of St. Paul; Secretary, Dr. F. H. Davis, of Chicago.

PREDICTION OF THE ERUPTION OF VESUVIUS.—Mr. Silbermann addessed a letter to the President of the Académie des Sciences, which was dated Saturday evening, May 4, and forwarded by post. In this he announced that on Monday morning, May 6, an eruption of Vesuvius, more violent than those that had preceded it, would take place. In the letter he detailed the atmospheric conditions which had induced him to predict the greater violence of the eruption then to take place.

MORTALITY FROM SMALLPOX.—The number of deaths from smallpox in Philadelphia during the weeks ending June 1 and 8, 1872, were respectively 41 and 24, of which 40 were of minors.

MORTALITY OF PHILADELPHIA.—The following reports are condensed from the records at the Health Office:

	For the week ending June 1.	June 8.
Consumption	33	33
Other Diseases of Respiratory Organs	27	44
Diseases of Organs of Circulation	14	16
Diseases of Brain and Nervous System	67	51
Diseases of the Digestive Organs	16	25
Diseases of the Genito-Urinary Organs	7	6
Zymotic Diseases	67	50
Cancer	4	7
Casualties	11	11
Debility	33	21
Intemperance	1	0
Malformation	0	1
Old Age	7	8
Scrofula	0	1
Stillborn	12	13
Suicide	2	0
Tumors	1	1
Unclassifiable	7	14
Unknown	3	1
Totals	312	303
Adults	158	148
Minors	154	155

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM MAY 19, 1872, TO JUNE 4, 1872, INCLUSIVE.

By S. O. 118, War Department, A. G. O., May 21, 1872, the following changes are made:

SIMPSON, J., SURGEON, relieved at Fort McHenry, Md., and assigned to duty as attending surgeon and examiner of recruits at Baltimore, Md.

SIMONS, JAMES, SURGEON, assigned to duty as Medical Director, Department of the Gulf.

PAGE, CHARLES, SURGEON, to report to the Commanding General, Department of the Platte, for assignment to duty, to take effect June 20.

The following officers are relieved from duty in the Departments wherein they are now serving, and ordered to report to the Commanding Generals of the Departments to which they are transferred, for assignment to duty

HASSON, A. B., SURGEON, from Department of the South to Department of the East.

HORTON, SAMUEL M., ASSISTANT-SURGEON, from Department of the East to Department of Texas.

WHITEHEAD, WILLIAM E., ASSISTANT-SURGEON, from Department of the East to Department of Texas.

BUCHANAN, WILLIAM F., ASSISTANT-SURGEON, from Department of the East to Department of Texas.

COUES, ELLIOTT, ASSISTANT-SURGEON, from Department of the East to Department of Dakota.

JAQUETT, G. P., ASSISTANT-SURGEON, from Department of the Lakes to Department of the Platte.

BROWN, H. E., ASSISTANT-SURGEON, from Department of the Lakes to Department of Dakota.

JESSOP, S. S., ASSISTANT-SURGEON, from Department of the Lakes to Department of the Missouri.

BARTHOLF, J. H., ASSISTANT-SURGEON, from Department of the South to Department of the Lakes.

WILSON, A. D., ASSISTANT-SURGEON, from Department of the Platte to Department of the East.

LORING, L. Y., ASSISTANT-SURGEON, from Department of the Missouri to Department of the East.

NOTSON, WILLIAM M., ASSISTANT-SURGEON, from Department of Texas to Department of the Lakes.

DE WITT, C., ASSISTANT-SURGEON, from Department of California to Department of Arizona.

CARVALLO, C., ASSISTANT-SURGEON, from Department of Texas, and to report in person to the Surgeon-General.

ROSE, GEORGE S., ASSISTANT-SURGEON, from Department of California, and to proceed to Fort Yuma, California, reporting thence to the Commanding Officer, Department of Arizona, for assignment to duty.

GRAY, C. C., SURGEON, granted leave of absence for four months, with permission to go beyond sea.

EDWARDS, L. A., SURGEON.—By S. O. 124, War Department, A. G. O., May 29, 1872, granted leave of absence for thirty days, with permission to apply for an extension of sixty days.

BAILY, J. C., SURGEON.—By S. O. 68, Department of California, May 10, 1872, assigned to duty at Benicia Barracks, Cal., the order assigning him to duty at Camp Halleck, Nevada, being revoked.

CAMPBELL, JOHN, SURGEON.—By S. O. 100, Department of the East, May 27, 1872, assigned to duty at Fort Adams, R.I.

SPENCER, WILLIAM C., SURGEON.—By S. O. 124, c. s., War Department, A. G. O., assigned to duty as Attending Surgeon, Headquarters Military Division of the Missouri, and examiner of recruits at Chicago, Ill.

BACHE, D., SURGEON.—By S. O. 118, War Department, A. G. O., c. s., granted leave of absence for thirty days.

FORWOOD, W. H., ASSISTANT-SURGEON.—By S. O. 47, Department of the Lakes, May 29, 1872, granted leave of absence for thirty days.

WOLVERTON, W. D., ASSISTANT-SURGEON.—By S. O. 94, Department of Dakota, May 19, 1872, granted leave of absence for twenty days.

GIBSON, J. R., ASSISTANT-SURGEON.—By S. O. 112, Department of the South, May 31, 1872, assigned to duty at Charleston, S. C., relieving Surgeon Hasson.

BARTHOLF, J. H., ASSISTANT-SURGEON.—By S. O. 121, War Department, A. G. O., May 25, 1872, leave of absence extended thirty days.

ROSE, GEORGE S., ASSISTANT-SURGEON.—By S. O. 82, Military Division of the Pacific, May 15, 1872, to proceed to Washington City, via Panama and New York, in charge of applicants for Soldiers' Home and an insane man, reporting upon arrival to the Adjutant-General.

POWELL, R., ASSISTANT-SURGEON.—By S. O. 76, c. s., Department of the Gulf, relieved at Jackson, Miss., and to report for duty at Jackson Barracks, La.

KING, J. H. T., ASSISTANT-SURGEON.—By S. O. 88, Department of the Platte, May 27, 1872, assigned to duty as Post-Surgeon at Fort McPherson, Nebraska.

ELBREY, F. W., ASSISTANT-SURGEON.—By S. O. 88, c. s., Department of the Platte, assigned to duty as Post-Surgeon with troops at Beaver City, Utah.

DICKSON, J. M., ASSISTANT-SURGEON.—By S. O. 79, Department of the Platte, May 15, 1872, to report for duty to the officer commanding camp on Red Willow.